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An Indian Shroud of Gold.

Hon. Thomas Ewbank, ex-Commissioner of Patents, communicates to the *National Intelligencer* some interesting information in regard to recent discoveries in the excavation of Peruvian tumuli. The information was received by Mr. Ewbank from W. W. Evans, engineer of the Arica and Tacna railroad in Peru. Mr. Evans states that in making excavations for the railroad at Arica hundreds of graves are demolished, in which are numerous Indian relics. The excavations are seventy feet deep, and the soil is loose sand. Among other interesting relics, an Indian was started out of his resting place rolled up in a shroud of gold. Before Mr. Evans had knowledge of the incident the workmen had cut up this magnificent winding-sheet and divided it among themselves. With some difficulty he obtained a fragment, and dispatched it to Mr. Ewbank. Mr. Evans notices as a remarkable fact that in hundreds of Indian skulls which he has examined not one has a decayed tooth. Mr. Ewbank thinks the weight of the entire shroud must have been eight or nine pounds, and had it been preserved would have been the finest specimen of sheet gold that we have heard of since the times of the Spanish conquest.

Decimal Currency in England.

Decimal currency is to be introduced into Great Britain. The pound will be retained as the unit, and divided into one thousand parts; the half-crown will be abolished—the shilling fifty, the sixpence twenty-five, and a new coin will be introduced representing five farthings, while the present farthing will be depreciated one twenty-fifth in value—that is, there will be a thousand to the pound sterling, instead of nine hundred and sixty.

Early Manufactures in Rhode Island.

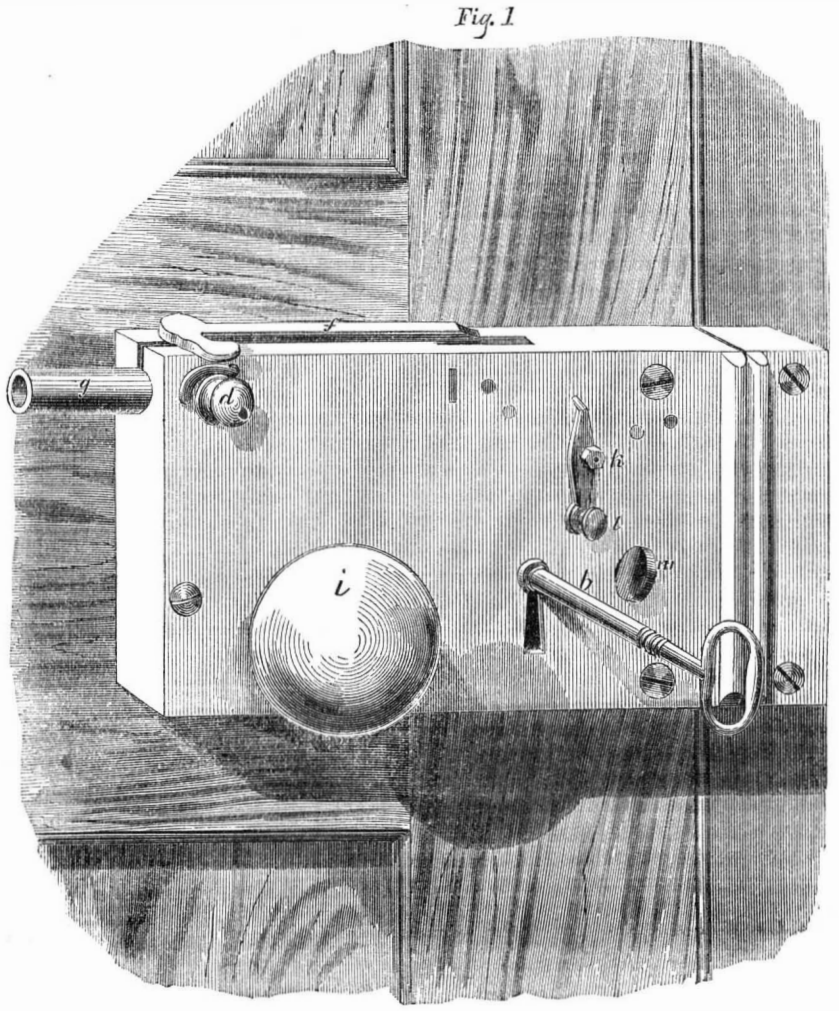
A correspondent of the Providence, R. I., *Journal* gives some curious information relative to the early manufactures of Scituate. One Charles Hopkins used to manufacture cedar pails there about 70 years since, some of which are still in use, and have been ever since they were made. These are pails worthy of the name. The most of those made at present are very cheap, but as poor in quality as their price is low. One Jabez Hopkins used to make iron smoking pipes there, and his son Ezekiel made excellent swords. In 1735 Samuel Waldo, a merchant of Boston, bought an iron mine in Scituate, and erected a foundry, in which iron cannon were afterwards cast that did good service during the Revolution.

New Beacon Light.

A new lighthouse and keeper's dwelling have been erected at Watch Hill Point, near Stonington., R. I. Instead of the present revolving light, a fixed white light will, on and after the first of February, 1856, to be shown from the new tower, which is fifty feet N. W. of the old site. The light will be 62 feet above mean low water, and will be visible from the deck of a coaster, about 12 1-2 nautical miles.

PATENT SAFETY AND ALARM LOCK.

Fig. 1

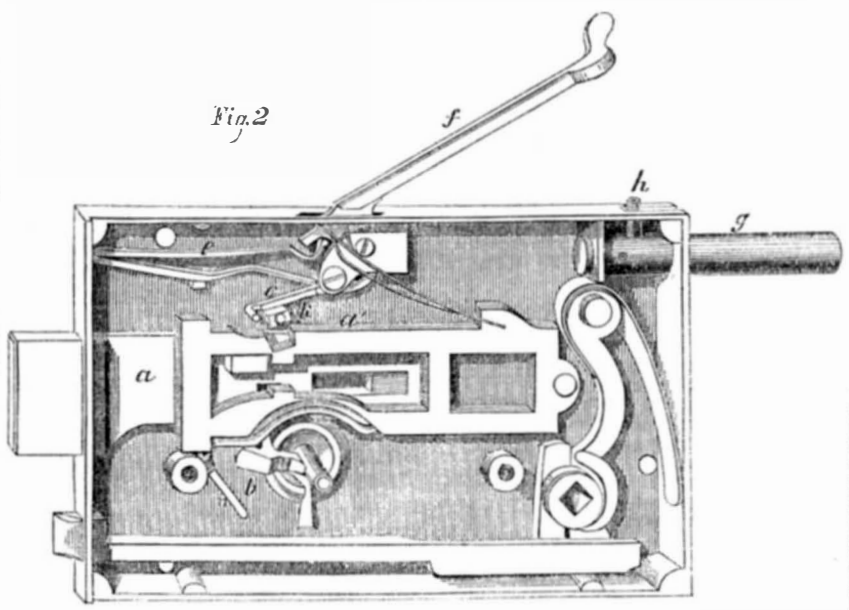


The accompanying engravings are illustrative of the ingenious Safety Alarm-Lock, patented by John Schneider, of Rochester, N. Y., May 1st, 1855.

The chief feature of novelty consists in the combination of a pistol with the interior parts of the lock, in such a manner that if a burglar should be so far successful as to introduce the proper shaped key, he will, by the very act of pushing back the bolt, cause the pistol to fire off, and thus instantly alarm the whole household, and perhaps neighborhood. The attachment and operation of the pistol is done in a very simple manner, and the expense is quite small. There is, also, no alteration in the size or general form of the lock, as will be observed by a glance at the exterior view, fig. 1. A side view, showing the interior portions of the lock, is seen at fig. 2.

In fig. 1, *b* is the key, and *i* is the usual knob or handle; *g* represents a small pistol barrel having a cap nipple, *h*; *f* is the hammer for striking the cap on the nipple, to discharge the pistol. The inner end of the hammer, *f*, fig. 2, is provided with a curved plate through which a pivot passes into the case, thus forming a fulcrum pin on which it turns; it also has a projection which acts upon the end of a bent spring, *e*, similar to that of a gun lock *c* is the trigger, resting upon a small dog, *k*.

Fig. 2



The tumblers, when the bolt moves back, turn the dog, and cause it to press up and discharge the trigger, *c*. The dog, *k*, is connected with the button, *l*, seen on the exterior of the lock; the use of this button is to move the trrigger by hand, and thus permit the hammer to be gently uncocked whenever desirable, as, for example, in the day time.—When the hammer is uncocked, the bolt is disconnected from the pistol, and operates like an ordinary lock. The connection is instantly resumed, however, by simply cocking the hammer. *a* is the bolt, and *a'* represent three tumblers which are operated by the prongs or forks of the key, to throw them up, and in line to allow the bolt, to be moved back and forth to lock and unlock the door. The spring, *e*, under the heel of the hammer, holds the same in position, like the main spring of a gun lock; but when the key is inserted in the lock, the tumblers thrown up, and the bolt acted upon to unlock the door, the trigger, *c*, is slightly pressed up by the dog, *f*, as before described, which relieves the spring, *e*, the hammer, *f*, is tripped or set free, and comes down upon the cap, discharging the pistol, and causing an alarm that will put to flight the most ferocious and daring burglar. *d*, fig., is the breech-pin, which secures barrel *g*.

Independent of the alarm, the lock is a good one. For additional security it has a safety hasp, *n*, terminating in a button, *m*, on the exterior of the lock, as will be seen in fig. 1. By turning the button, the hasp, *n*, will be thrown up against and across the tumblers of the lock, in such a manner as to prevent any key whatever from moving the same. The knob is also arranged, if required, to operate the hammer of the pistol barrel, so that the lock can be set to give an alarm by the report of the pistol, either when locked, or simply fastened by the common catch bolt.

The above is a safe lock to the careful owner but a dangerous one to the thief.

More information may be obtained by letter addressed to the patentee, at Rochester, N. Y., by whom it is manufactured in various forms.

Belgian Broadcloth Works.

An English paper gives a very interesting description of the celebrated establishment of Messrs. Bolley, at Verviers, who were the first to give a world-wide reputation to Belgian broadcloths. Their works are driven by four water-wheels and five steam engines, and they employ between 1300 and 1400 laborers, many of them the most skilled in Europe. It is not easy for an artisan to obtain a situation in their establishment, but once employed, he is supported through all illness and infirmities to the end of his days, unless he forfeits his place by gross misconduct.

To Make Lard and Tallow Candles.

The following method of making the above-named candles is described in the New England *Farmer* by a correspondent:—"I kept both tallow and lard candles through the last summer, the lard candles standing the heat best, and burning quite as well, and giving as good light as tallow ones. Directions for making good candles from lard: For 12 lbs. of lard take 1 lb. of saltpeter and 1 lb. of alum; mix and pulverize them; dissolve the saltpeter and alum in a gill of boiling water; pour the compound into the lard before it is quite all melted; stir the whole until it boils, and skim off what rises; let it simmer until the water is all boiled out, or till it ceases to throw off steam; pour off the lard as soon as it is done, and clean the boiler while it is hot. If the candles are to be run, you may commence immediately; if to be dipped, let the lard cool first to a cake, and then treat it as you would tallow."

To Prevent the Alteration of Bank Notes.

Ulysses B. Vidal, of Philadelphia, proposes the following plan to manufacture bank bills, to prevent them from being altered from lower to higher denominations. "Fine floss silk is to be woven into open patterns, delineating the various denominations of the bills. A single pattern for each bill is then pressed into the paper during the process of the manufacture." This method of making bills, he believes, would insure the public against fraudulently altered bank notes. The lines of the floss silk must extend invariably across each bill.

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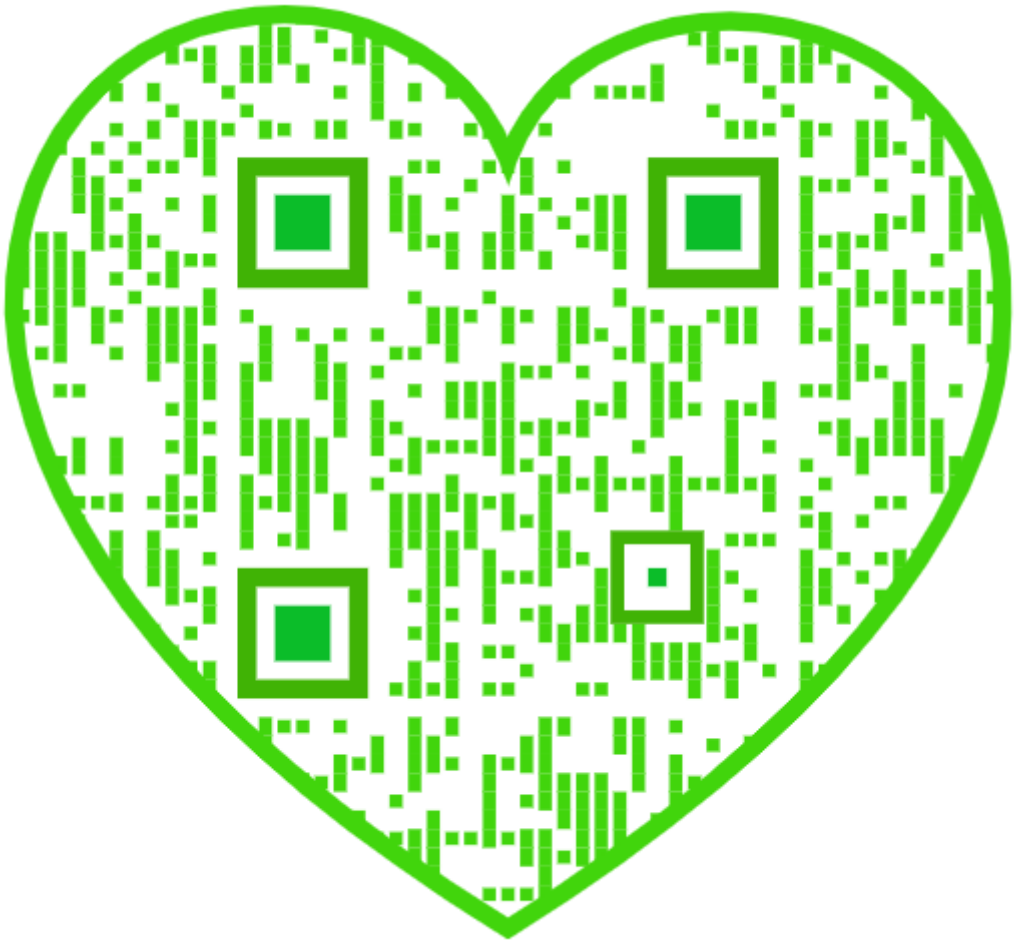

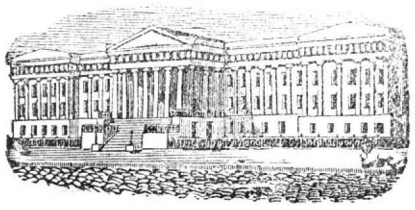

[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING JAN. 1, 1856.

BOTTOMS OF SHIPS AND OTHER VESSELS—Samll. W. Brown, of Lowell, Mass.: I claim making the entire bottom and keel of ships and other vessels, of thick and continuous plates of metal, for the united purposes of bottom and ballast, as set forth.

SHEET METAL BENDING—Reuben Brady, of New York City: I do not claim the concave bed and rollers, irrespective of the arrangement described.

I claim placing the upper roller, F, in an adjustable or swinging frame, E, and attaching the guide or feeding plates, G G, to said frame, when the above parts are used in connection, and operate conjointly with the permanent roller, A, and concave bed, D, for the purpose specified,

[The nature of this invention consists in the employment of two rollers, one of which is placed in permanent bearings, and the other in a swinging frame, to which the guide feeding plates are attached. A stationary concave bed is also employed, the points being so arranged as to bend the plates of sheet metal into cylindrical form for cans, &c. The chief point of novelty is a peculiar method of adjusting the concave bed, so that the diameter of the curve given to the metal may be changed at pleasure, and larger or smaller cans be produced.]

COAL SCUTTLE COVERS—Irah Chase, Jr., of Boston, Mass.: I claim, first, hanging to the cover, B, a circular hoop, C, constructed substantially as described, in combination with the prop, D, and receiving hole, F, operating as set forth.

Second, the arrangement by which the cover is fastened down, i. e., by making the projection, H, of the hoop, C, and the ear, G, operate as an automatic latch, substantially as described,

BEE HIVES—G. H. Clarke, of East Washington, N. H.: Disclaiming the other devices described individually or combined, I claim the construction and arrangement of the hollow bars, D, in the manner and for the purposes set forth.

FORM OF BUILDING BRICKS—Edgar Conkling, of Cincinnati, O.: I disclaim forming bricks with holes running vertically through them, such having been proposed in the English patent of Caleb Hitch.

But I claim the brick, as described, having marginal ribs, d e, skirting three sides, and a central rib, f, across the middle of the bottom surface, or of the top and bottom surfaces thereof, said ribs enclosing cavities, b b', adapted for the reception of grouting, in combination with coving on the inner edge, affording passage for the grouting, from above to the cavities, b b', below the bricks, or devices substantially equivalent.

DISINFECTING FECAL MATTER—D. E. Coutaret, of Boston, Mass.: I claim the use of the ingredient named, for deodorizing feculent or other decomposing organic matter, and converting said matter into a manure, as described.

STREET PAVING MACHINES—Thos. Davidson, Jr., of Kensington, Pa.: I do not claim, separately, the rammers, T, operated by the lifting wheels, Q, for this is a well known device, and used in many cases, for pounding, crushing, etc.

But I claim the rammers, T, operated by the lifting wheels, Q, in combination with the ratchets, W X, and pawls, h i, arranged as shown, whereby the machine is moved along, either backwards or forwards, as the rammers perform their work.

I further claim the arrangement of the gearing, E C I, as shown, whereby the motive power employed to operate the hammers, may, by adjusting the wheel, E, be employed to drive the machine from place to place, when the rammers are not in operation.

[A slow and tedious business is the ramming down of paving stones. Heretofore it has been done exclusively by hand, and has generally been regarded as a very severe species of labor. Mr. Davidson, in the above improvement, proposes to use the giant power of steam instead of muscle to do the work. He provides a locomotive furnished at its rear end with a dozen or two of heavy rammers, quite similar to those in common use, arranged in line. The rammers are furnished with stout arms, behind which is a cylinder having corresponding projections. When the cylinder revolves, the projections catch under the arms and lift the rammers, which then fall upon the stones by their own gravity. The operation is very rapid, and a machine, it is supposed, can be easily made capable of doing the labor of fifty or one hundred men. The locomotive propels itself along the street as fast as it finishes the work.]

PLOWS—B. F. Avery, of Louisville, Ky.: I claim the lock joint, for holding the land side to the short landside and mold-board, the same consisting, mainly, of a shaped projection, g, hook, n, and flange, h, and their counterparts, in the short landside.

I also claim the ears or lugs, d d, cast on the inside of the mold-board, for the purpose of fastening the mold-board handle.

HARVESTERS—Lebbeus Barnes, of Islip Township, N. Y.: I claim the application to the reciprocating cutter-bar of a moving machine, or reaper, of a spring or springs, driven by or operating in connection with the cutter, essentially as specified.

WATCH KEY—Morris Falkenan, of New York City, Morris Pollak and Solomon Wiener, of Hoboken, N. J.: We claim the key, 9, on the pipe, 3, pressed into the groove, 10, by the spring, 6, and sliding in said groove, 10, which is closed at its outer end, and thereby causing said pipe to be turned by the case, compensating for wear, and also regulating the extent of motion of said pipe, as specified.

Also, we claim the trigger piece, 8, combined with the stud spring, 6, to remove said stud from the hole, 7, and allow the pipe, 3, to be projected from the case, as specified.

BREECH-LOADING FIRE ARMS—L. H. Gibbs, of Troy, N. Y.: I claim hanging the barrel at some point between the two ends, on a sliding and turning joint, in combination with the connecting of the said barrel, of the turning and sliding joint, by means of a joint link with a hand lever having its fulcrum in the stock or breech pin, as described, for the purpose specified.

And I also claim, in combination with a sliding barrel, having the rear end thereof open, as described, the employment of a fixed cylindrical breech-pin, surrounded by an annular recess to receive the rounded edge of the barrel, as described and for the purpose specified.

SEEDING MACHINES—J. G. Snyder, of Wheatfield, Pa. I claim so arranging the opening in the seeding plates, h g, that the machine can be converted from a drilling to a hill planting one, or vice versa, by changing the running direction of the movable plate, as set forth.

Second, I do not claim a secondary box, or receptacle for the excess of grain, as this is not new.

I claim an improvement upon the machine of Snyder & Young, patented Feb. 23, 1854, viz., the arrangement of the convex seeding plate, h, segmental opening, L, and seed receptacle or drawer, M, for admitting of the location of said drawer outside of the hopper, and in more convenient position for the attendant, as set forth.

ILLUMINATING GAS—N. Aulin, of Albany, N. Y.: I claim in the described, process of making gas, mixing the materials from which the gas is to be generated, with porous or coarsely divided substances, which are slow conductors of heat, and introducing the mixture into the retort, in a vessel with a perforated bottom, so construct d as to compel the contents of the vessel, expelled by the heat, to escape at the lower end, near to or in contact with the bottom of the retort, where the heat is the most intense, substantially as described.

MANUFACTURE OF HATS—Jos. Johnson, of New Orleans, La.: I do not claim, in manufacturing hats, the use of soft water-proof gums; nor the combination of the same with whalebone, wood fiber, cork, tarleton, or with either of them, as these have been used before; nor do I claim the peculiar fabric described, as woven after the manner of hair cloth, and consisting of thread, interwoven with slender strips of either whalebone, willow, or other wood fiber, although the said fabric is believed to be new.

But I claim the application and use of the said fabric in the construction of hat bodies, when the same is cut from the web, united together and formed into hat bodies, substantially in the manner set forth.

I also claim the metallic ring or annular plate, made substantially as described, in combination with the turn-over around the square, for the purpose of preserving the proper circular form at the square, when the fabric of which the tip is made is too tight, or thin, to serve the purpose of such support.

CHEESE PRESSES—Wm. C. Pancost, of Geneva Township, O.: I claim the spiral grooved wheel, A, in combination with the self-adjusting wheel, B, as described, for the purpose set forth.

HORSE HAY RAKES—Randal Pratt, of Marple Township, Pa.: I claim hanging the prongs, or clearers, F F, so that they can vibrate, and connecting them to the devices which operate the teeth, so that they will be vibrated in an opposite direction, simultaneously with the teeth, to clear them of the crop gathered, and press it together on the ground, as set forth.

ATTACHING HAMMER HEADS TO SHAFTS—Charles Hammond, of Philadelphia, Pa.: I claim the socket, C, with its projecting lips, a a, and the wedge, D, arranged and employed, in connection with the head, A, and shaft, B, substantially in the manner and for the purpose set forth

PADLOCKS—James Harrison, Jr., of Milwaukie, Wis.: I claim the combination of the shackle, A, sliding bolt, C, and rods, o o, when arranged as shown, and fitted within a solid body, or case, A, constructed of suitable metal, substantially as described, whereby a strong, durable and burglar proof-lock is obtained.

[It is generally less difficult to make a padlock safe, so far as it respects the lock-pick, than to make it secure against breakage. Nearly all the padlocks in use can be broken to pieces by one or two smart blows with a stout hammer. Not so, however, with the subject of the present patent. The moving parts are few, and these are so imbedded in solid metal that when combined the lock cannot be smashed. Indeed, it has no shell, nor is there any interior empty cavity. Striking upon it is therefore equivalent to pounding on a thick solid block of cast steel —of which the lock is made. There is no key hole like those of ordinary padlocks, but a sort of wedge is used to open the lock. It would take a long head to pick the same. This invention appears to afford all the security of a bank safe lock, while the expense is far less, and the field for use far greater. Indeed, under this patent, doors and locks of all kinds, involving the same principles and affording the same uncommon security, can be made.

HANGING DOUBLE DOORS—C. E. Brown, of New York City: I claim connecting double doors by an endless chain, D, passing around pulleys, C, on the shafts or axes, b, of the doors, or by gearing, arranged in any proper way, so that as one door is opened or closed, the other will be moved simultaneously, in a similar or opposite direction, as described

Mr. Brown's improvement relates to what are known as double doors, or doors divided into two halves. It consists of a contrivance, whereby, when one door is opened, the other also moves. The two are connected together at their tops, by means of a belt which passes around pulleys secured to the doors near their joints with the jamb. Thus when one door moves, the other is also operated, by crossing the belt the two doors will move in the same direction. If the belt is not crossed, the doors will open and close in contrary directions. The improvement speaks for itself.]

EXCAVATING MACHINES—J. J. Savage, of New York City: I claim, first, the connecting of the scoop and staff of excavating machines, to the swinging post, by vibratory or oscillating arms or links, H H, or their mechanical equivalents, in the manner and for the purposes substantially as described and shown.

Second, I claim the adjustable boom, G, in combination with the excavating scoop and staff combined in the manner and for the purposes of an excavating machine, substantially as set forth.

I also claim the combination of the vibrating or oscillating connecting arms or bars, H H, of the scoop staff, with the feed chain, m, windlass, o, gearing, q and r, and sheave pulley, K, for the purpose of automatically feeding the scoop downwards, simultaneously with its forward motion, as described.

PREVENTING BANK NOTES, &C., FROM BEING COUNTERFEITED—C. D. Scropyan, of New Haven, Conn.: I claim the application of oil colored paper, together with a fugitive ink to the manufacture of bank notes and drafts, which will prevent the counterfeiting of the said bank notes and drafts, by photographic process, by transferring on lithographic stone, or by anastatic printing, as described, using for that purpose, the aforesaid combined action of the oil colored paper, and the fugitive ink, i. e., the combination of the oil colored paper and the fugitive ink, which produces the desired result, and not the oil colored paper alone, without the fugitive ink, nor the fugitive ink without the oil colored paper, but the protecting power resulting out of the combination of the oil colored paper and the fugitive ink, or any other, substantially the same, and which will produce the intended effect.

BLADES OF MOWING MACHINES—Gustavus Stone, of Beloit, Wis.: I do not claim the invention of mowing machines, or of the several parts thereof, generally.

But I claim the making the sections of which the grass cutting blades are usually made, of two pieces of steel, A B, with but one cutting edge, D, upon each, and so placing them upon the bar, C, that there shall be a wedge-shaped opening, J, between the backs, closed at the points, and widening out towards the bar.

MORTISING MACHINE—William Stoddard, of Lowell, Mass.: I claim, first, the movable cutting spurs, P P, or their mechanical equivalents, for forming or cutting the heads or ends of the mortise, and without the machine being confined to the timber being mortised, essentially in the manner and for the purposes set forth.

Second, I claim the double inverted feed rack, X, in combination with the ratchet nut, G2, which is fixed to the screw, Y, or their mechanical equivalents, so this screw can be moved by the rack, X, and ratchet nut, G2, to feed down the spurs, P P, and a a a a, and a reciprocating cutter, B2, so as to form the mortise in the wood, essentially in the manner and for the purpose set forth.

SAWING MARBLE OBELISKS—Abraham Straub, of Milton, Pa.: I claim the combination of the divided toggle jointed shaft, with a hinged or adjustable section of the frame, so that two or more saw frames, hung to and driven by said shaft, may be worked in an inclined position to each other, but at right angles to the axis of motion, and so that the shaft, saw gates, and their guides, as well as the sectional or hinged frame, may all be adjusted simultaneously, and held in adjustment, substantially as described.

CORN HARVESTERS—Geo. W. N. Yost, of Port Gibson, Mass.: I claim the combination of the adjustable lifters, G G, finger board, d, revolving sickle-shaped knives, B, vertical adjustable frame, F, and the adjustable platform, D, for the purpose of harvesting corn, when all are operated and operating as set forth.

FILING SAWS—Jacob Erdle, of West Bloomfield, N. Y.: I claim the use of the eccentric, e, and the various parts co-operating therewith, for raising the file, as it recedes; the lever, L, plate, H, and their connections, for feeding the saw through one or more teeth, and for regulating the depth of the cut, and its angle, all arranged and constructed substantially as shown.

BURNING WET FUEL—J. F. Manahan, of Lowell, Mass., Antedated July 8, 1855: I claim the method of producing from wet vegetable matter, a useful fuel, by mixing it with coal tar or other fluid bituminous matter of like character.

GAS COOKING STOVES—H. B. Musgrave, of Cincinnati, O.: I claim, in combination with the conce ctrically arranged gas deflector, b, &c., the gas burner, with lateral vents, and capable of vertical adjustment, or equivalent devices, for the purposes specified.

LOADING DIRT CARS—Chas. Phillips, of Detroit, Mich. I claim the framing, A, with boxes, B, and aprons or leaves H, attached to it and arranged substantially as described, for the purpose specified.

[The foregoing improvement consists of a huge sort of a table, upon the top of which the dirt is thrown as fast as excavated, and then dropped into wagons and carts, which are backed up beneath the table to receive their loads. The invention is applicable principally to the excavation of banks and hills. An aperture is first dug in the side of the embankment, just large enough to admit the table. Its leaves form a firm floor, on to which the dirt is brought by scrapers, &c., from the sides and other parts of the embankment. When a sufficient quantity has been acumulated, the table tops or leaves are tilted inwardly, and the dirt falls into the carts below. The leaves are then pushed up and fastened level again, and are ready for new loads. This looks like a very serviceable contrivance for some localities.]

CANDLESTICKS—Abner Whiteley, of Springfield, O.: I do not claim a cup or bowl, having three wire springs extending up from the bottom of the same, or a set of metal springs extending up to support the candle end.

But I claim, first, the socket, e e, having the openings, g g, as described, and for the purposes set forth.

Second, I claim the combination of the socket, e e, openings, g g, and slide, c c, as described, and for the purposes set forth.

CULTIVATING PLOWS—Wm. E. Wyche, of Brookville, N. C.: I claim the arranging upon the share of the plow of one or more vertical cutters, with a curved or inclined plate, D, at, or near the rear outside of the share, for the purpose of dividing the furrow slice vertically, and turning the outer portion in towards the plow, as set forth.

FIRE ARMS—James H. Merrill, of Baltimore, Md.: I claim the construction of the breech pin with a receptacle for tallow, to lubricate the joints, as set forth.

I also claim the depression, L, in the breech pin, opposite the end of the bore, as I have found it advantageous.

I also claim the combination of the button on one end of the breech pin, and the slotted plate in connection with which the button works, to secure the breech pin firmly in place while the breech is closed, in combination with a catch, M, or the equivalent thereof at the opposite end of the breech pin from dropping out while the breech is open, and the button, in a line with the slot, by which means the breech is securely closed while the charge is exploded, and the pin at the same time capable of being readily removed.

I also claim the arrangement of the rammer in the rear of the breech, in combination with the breech pin, substantially as set forth.

I also claim the construction and arrangement of the breech pin, the lever for turning the same, the trough, H, to receive the charge and guide, the rammer, C, in such manner that the lever, when shut down upon the stock, will cover and protect both the rammer and changing channel, substantially as set forth.

PEG CUTTERS FOR BOOTS AND SHOES—S. R. Jones, of Baltimore, Md.: My claim is the described and shown employment of the spring, in connection with the curved surface of that end of the handle, double lever, upon which the float is pivoted, for the purpose of rendering the float capable of self-adaptation to the surfaces to which it is applied.

WEAVERS' HARNESS—G. L. Jenks, of Providence R. I.: I claim, first, the described method of adapting the machine to the making of harness of different widths, by the application of movable head pieces, a a', of different forms to the studs, S', and its fellow, which form the end or outside studs of the range, and the application to the single depressers of a movable packing piece, 22, and blocks, 27, 28, or other variable guides, the whole operating substantially as described,

Second, guiding the operations of the arms which carry the fingers, employed in forming the loops and knots to produce the eyes of the holders, by means of a pin, 37, working in a slot in a plate, 33, which is made variable by swinging on a stud, 35, whereby the movement of the finger may be varied to any extent necessary, without varying its position, when in contact with its respective stud, S2, or S4, substantially as described.

[This invention consists in certain improvements in machines now in use for making weavers' harness. The objects of the invention are, first, to adapt a single machine to the making of different widths of harness. Hitherto a separate machine has been required for each change in the width. Second, to adjust certain parts of the machine which are employed to produce the knots to form the eye of the harness. Without engravings we could not convey a clear idea of the construction of the parts. The improvements named are very important.]

MOWING MACHINES—Henry Pease, (assignor to himself and James Roby,) of Brockport, N. Y.: I claim the slotted arm, J', and rotating knife, k, arranged substantially as described for the purpose set forth.

[The connection between the sickle bar and the crank consists of a spring rod fixed immovably at one end to the cutter bar, and at the other end by the usual kind of coupling to the crank. The elasticity of the spring permits the necessary change of position to accommodate the working of the crank. The advantage of the spring is that by having a fixed attachment to the cutter bar, the latter may be made thinner and lighter than could otherwise be allowed, were the common pivoted rod employed.

The draught tongue in Mr. Pease's machine is placed in the center instead of the side, which renders the movement quite easy for the horses.]

HARVESTERS—John Reily, of Hart Prairie, Wis., (assignor to Talbot C. Donemay, of Ottawa, Wis., John Heath, of Sullivan, Wis., and himself,: I claim, first, the method of raising and lowering the cutter bar, substantially as described.

Second, the arrangement and combination of a rakers seat, with a swinging platform as described.

Third, the adjustable grain guard or strengthening board, I, for the purposes described.

BOOTS AND SHOES—Sylvanus H. Whorf, of Roxbury, Mass., (assignor to himself and Chas. Rice, of Boston, Mass.: "I do not claim uniting the soles to the upper by means of cement, made to extend through the upper alone.

But I claim, in the manufactur of a shoe, by connecting its soles and upper, extending the cement not only through perforations in the upper but in or through the insole or the outer sole, or both, as specified, the same presenting great advantages, not only in securing the parts together, but in rendering them water-proof, when the cement employed is of a character to resist water.

RE-ISSUES.

COTTON PRESSES—Nathan Chapman, of Mystic River, Conn. Patented originally Aug. 8, 1854: I claim the recesses or slots, j j, in the hubs of the toothed wheel on which the chains that raise the follower work, for receiving the lower ends of the chains when wound up, and bringing the pressure nearer the center of the bearings of the wheels, substantially as described.

COMPOSING AND SETTING TYPES—Wm. S. Loughborough, of Rochester, N. Y. Patented originally Oct. 3, 1853: I claim, first, the composing wheel, W, as specified and for the purposes set forth.

Second, the means above described for delivering the types from the various cells to the jaws of transits or their equivalents, fixed to a wheel or other rotary apparatus.

Third, the construction and application of the transits, as described, or their equivalents, attached to a wheel or other rotary motion, to convey the types from the slides or their equivalents to the galley or composing chamber.

Fourth, the devices for effecting the delivery of the types from the cell of small j's, and those cells which are similarly conditioned in a case of italics.

Fifth, the construction and arrangement of the lever, G, and its head, i, as described, and for the purpose set forth.

Sixth, the construction and arrangement of the justifying bar, a, in combination with the cam rach, b.

Seventh, the index, N', fixed to a bar, a, by which it is operated, in combination with the index plate, K'.

Eighth, the application of the detent, g, operating as described.

Ninth, the construction and arrangement of the lever, O, in combination with the rule, or line register, M, as described.

Tenth, the tappet, t, constructed as described, so as to effect the horizontal and vertical change of the lever, O.

Eleventh, the detents, w, so applied as to retain the slides, R, when they are thrown back after delivering a type.

WASHING PAPER STOCK—Horace W. Peaslee, of Malden Bridge, N. Y. Patented originally June 23, 1855. English patent dated Sept. 20, 1854: I am aware that a wire gauze or reticulated cylinder has been used in connection with a trough of water for various purposes, and that such a combined cylinder and trough has also been used in connection with agitators, and also with elevators, for the purpose of agitating or stirring and elevating earthy substances containing gold, for the separation thereof. I am also aware that a cylinder has been used with inclined flanches or curbs, at, or near the end, and therefore I do not wish to be understood as making claim to any of these as of my invention

But I claim, for washing paper stock, the employment of a wire gauze or reticulated cylinder with open ends, and placed with its axis in a horizontal or nearly horizontal position, and with its lower part revolving in a trough of water, substantially as herein described. But this I only claim when the said cylinder is provided on the inside with hooked or bent teeth, for the purpose of catching and elevating the paper stock in separate portions to drain the water out of it, and drop it in the water, and thus subject it to the several operations required, as it is moved from end to end of the cylinder, as set forth.

And I also claim, in combination with a reticulated cylinder with hooked teeth, and rotated in a trough of water substantially as described for the washing of paper stock, the employment of inclined curbs, substantially as described, at the delivery end of the cylinder, for the purpose of regulating the delivery of the paper stock, as set forth.

TRACK CLEARERS TO GRASS HARVESTERS.—Abner Whiteley, of Springfield, O. Patented originally Aug. 2, 1854: I claim the rolling cone, G, moving on the axis, I, at an acute angle to the finger-piece, and furnished with a joint clearer, J, as described, and for the purpose of clearing a track in the cut grass.

DESIGN.

PERFUMERY BOTTLES—Augustus E. Wetherill, of Cincinnati, O.

The Climate of New England Unchanged.

The opinion is quite common that our seasons have greatly changed, and that our winters are now much milder than those of the "olden times." The Boston *Journal*, in an article on this subject, states that this position has been distinctly assumed by some of our best historians and naturalists, and many ingenious reasons have been given for the change but so far as it relates to New England it denies the correctness of such notions. It says: "For more than half a century, however, Fahrenheit's thermometer has been in use throughout New England, and we possess an exact register of observations made with it during more than forty years on one spot, by the venerable Dr. Holyoke, of Salem. The temperature of each day was thrice noted at the same hours throughout the whole period, and, as a comparative statement of the earlier and later portions of that period, therefore, it is of singular value. No conclusion can be drawn from it, however, favoring in the least the popular impression respecting the amelioration of our climate. On the contrary, it shows that from 1786 to 1829 the climate in the vicinity of Boston continued essentially the same. On the 7th of March, 1775, the frost was out of the ground at Portland, Me., and on the same date in 1621, garden seeds were sown in Plymouth, Mass.

"If it could be shown, for instance, that the English ivy, which has been cultivated in this country for more than half a century, could now endure our winters better than formerly, it would furnish strong proof of a softening of our climate; but no such instance can be found, either with the ivy, or with any shrub or tree.

"The reason given for the impression that the climate of our country has been growing milder since its settlement, is, that extraordinary seasons are remembered, while the intermediate years, which are not marked by any unusual prevalence of heat or cold, are forgotten."

To Builders of Suspension Bridges.

We have received a communication from A. W. Bowen, of Wilmington, Ill., in which he states, that $20,000 is being raised by tax in that place to build a bridge over the Kankakee river, which is at one point 450, at another 500, at another 1200 feet wide, having good banks, with a solid rock bottom, and the depth of the river 15 inches only, at low water. The township officers having charge of the matter, are not well informed of the expense of wire and other bridges; they will adopt the plan within their means, which promises the greatest strength and durability.

The principal bell for the great clock of the Houses of Parliament is to be nine feet in diameter, and to weigh fourteen tuns, and will be the largest bell, they say, ever cast in England

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Recent Foreign Inventions.

Iron Block Railway Chair—Mr. Stephen Reed, of South Northumberland, has directed his attention to the construction of iron railway chairs and sleepers, to be substituted for wood. In lieu of only a 4-inch bearing of the ordinary rail upon the sleeper, the bearing is increased to 21 inches with permanent stability so insured at the joints, that three chairs are enabled to be fixed instead of four, now required, according to the old method. Mr. Reed's block chair of cast iron spreads so as to occupy a resisting surface of 462 in. superficial, being 22 inches long by 21 inches in breadth, 3-8 in. in thickness, and turned up with a margin 3-8 in. high. The boss which carries the chair is hollow; the sides and brackets are 3 8 in. thick; the 21-inch bearing is 1-2 inch thick. The weight of the joint chairs is 1 cwt. 1 qr. 7 lbs. each, and that of the intermediate chairs 1 cwt. 0 qr. 26 lbs. The weight and size, however, can be modified according to circumstances. This system requires neither spikes, tie-bars, wood pins, or screw bolts. The permanent way may be made even of sand in the absence of ballast, and the chairs, once embedded, will continue firm and undisturbed in wet weather, or during frost or thaw. By a judicious arrangement of the permanent way, and the formation of a bed of sand below the sleeper, all rigidity is removed, and a smoothness of transit is afforded for the trains, which very considerably tends to the diminution of the tear and wear of the rolling stock. Time has tested the value of this mode of construction, it having been extensively used in the north of England, evidence of which has been supplied by the reports of Mr. P. Tate, the engineer of the Newcastle and Carlisle Railway; Mr. Wm. Horsley, resident engineer of the Blyth and Tyne Railway; as well as by the statement of the chairmen and directors of other companies. Timber laid lines require re-laying almost periodically, and although the cost of the iron chair in the first instance may be greater than wood, on the ground of durability, the advantage in the long run is with the iron sleeper.—[London Mining Journal.

Metallic Frames for Pictures—E. Haseler, of Wolverhampton, England, has obtained a patent for a new method of framing pictures, &c., by thin strips of metal, such as brass, tin, &c. The inventor takes four strips of metal, having lengths equal, or nearly equal, to the four sides respectively of the picture, engraving, &c., to be framed. The strips of metal have a breadth somewhat greater than that which it is intended the finished frame shall have. That portion of each of the strips of metal which forms the front of the finished frame may be ornamented by pressure, or by any other suitable process. The drawing, engraving, &c., to be framed is covered with a glass, and a board is placed at the back of the drawing, picture, &c. The strips of metal are laid upon the glass, and bent round the edge thereof, so as to embrace or enclose the edge of the glass, drawing, and board, and thereby secure the whole together. The metal strips are held or secured in their places by corner pieces, placed at the angles, and in front of the frame. The corner pieces are furnished with eyes, which are joined together by wires, which pass across the back of the frame, and connect the opposite eyes in the corner pieces with one another, and thereby securely bind the several parts of the frame together. The corner pieces may be composed of metal, and ornamented.

Weaving Figured Pile Fabrics—W. F. Norton, of Edinburgh, Scotland, has taken out a patent for weaving pile fabrics, embraced under the three following heads:—1. Certain modes of weaving printed warps for the production of a double-printed pile or velvet fabric, to be divided into two separate single fabrics after having been woven. 2. A mode of so arranging the beams of the ground warps that the two cloths shall be kept the requisite distance asunder during the weaving, and when cut, shall each have its requisite length of pile. 3. A mode of weaving double-printed pile or velvet fabrics, wherein two or more sets of printed warp threads are woven in alternately, so that each set of threads is only worked into the fabrics at intervals, and so that the pattern upon each set only requires to be elongated to about the same extent that would be necessary were a single set of threads used.

The Cornish and Condensing Engine.

Messrs. Editors—The object of my inquiry with regard to the relative economy of the Cornish and double-acting condensing engine, was to ascertain the *cause* of the superiority, if any existed, in the Cornish engine over the other, provided they were both encased alike, used steam of the same pressure, and expanded alike. Your correspondent, Mr. West, in a recent number of the Scientific American, has undertaken to enlighten us upon the subject, but I am at loss to conceive what could have been the nature of the experiments to which he alludes, to produce such results. Admitting, however, that he is correct in the principle which he advances, i. e., "the economy of the one is to that of the other as the diameter of one is to the diameter of the other." Suppose that, instead of reducing the diameter of the double acting engine to 35 3-8 inches, (which would give us nearer half the area than 38 3-8 in.) we use the same diameter, (50 inches) and half the stroke, which would give us the same amount of steam piston displacement in the double stroke of one as in the single stroke of the other. What, then, is the difference in the economy, and what would be the difference in the economy between two double acting engines of the same capacity of cylinder? The absurdity, therefore, of attributing the economy of the Cornish engine to the diameter of the cylinder, is at once rendered obvious. The cause of the superiority of the Cornish engine over the ordinary double acting engine, is alone traceable to the high expansion used, and the effectual method employed to effect radiation; and there is no earthly reason why the same means would not produce the same results in a double acting condensing engine.

H. Haines

Petersburg, Va., Jan., 1856.

(For the Scientific American.)

Sweet Almond, Fig, and Olive.

Almond—It is a matter of much astonishment that the easy culture of this tree has been neglected. It will bear abundant crops in any State south of the Potomac. It flourishes in ordinary light soils, sandy or otherwise. The trees should be planted in orchards, at the distance of eight to ten feet apart, each way. The same culture as is given to the peach is all that is required for the almond. There are four principal varieties, that are articles of commerce: oval hardshell, long hardshell, softshell, and ladies thinshell. The climate of California is found to be very suitable for this tree, as well as the fig, olive, pomegranate, pistachia nut, &c.

Fig—This tree will flourish in almost any soil, is of vigorous growth, and usually produces two crops in a season. Indeed, many varieties do this invariably. It will support the winters at Baltimore with but moderate protection, and south of the Potomac will stand entirely unprotected. In orchards the trees should be planted at a distance of eight feet apart each way, and be formed into standards. The crops are very large, and our cities offer extensive markets for the fresh fruit, while the surplus p oduct could be dried for after use. There are more than fifty varieties cultivated in the south of France and in Italy, but a selection of from six to ten varieties, ripening at different periods, would suffice for an orchard.

European Olive—In the vicinity of Wilmington, N. C., and south of it, this tree will withstand the winters and flourish. It may be trained as a low standard, the orchard being planted in rows about six feet asunder either way. As the fruit and the oil of this tree form important articles of commerce, our attention ought to be given to its culture.

Wm. R. Prince.

Flushing, L. I., Jan. 4, 1856.

Restoring Rancid Butter.—Butter Towers.

Messrs. Editors—The remedy I propose to effect a thorough revival of spoiled butter is the erection or use of elevated towers on the principle of shot towers. My plan is to build the towers of a considerable hight; elevate the butter and warm it so that it will flow freely through webs of different fineness, and then let it fall into a cold and strong solution of salt, occupying the base of the tower, from which it is to be taken out and washed in pure cold water, or a weak solution of salt, and then be packed for use. Various means of restoring butter are used by those in the trade, but they are only temporary in their influence or superficial in their action. The interior of the tower may be filled with some disinfecting or reviving gases, through which the butter in its molten and divided state falls, and thus serve still further to purify or revive it. When butter is fresh and brought immediately to market it brings the best price, but if it is indifferently prepared or packed it soon depreciates on the hands of the holder, who must sell it at more or less of a sacrafice. The treatment I propose for rancid butter, is destined to restore it to its original value to the trade. H. Strait.

Covington, Ky.

[The plan proposed by our correspondent to restore rancid butter is new to us; but is he positive that it will accomplish the object? It would have been well if he had given us some of his experience in prosecuting the process. If butter be heated, as proposed, care must be exercised not to raise its temperature to the boiling point, as at this heat it is liable to have its butyrine taste destroyed.

Paraffine Oil, Naphtha, and Paraffine, from Coal.

Some varieties of coal, particularly those which afford the largest amount of illuminating gas, as the Parrot, Cannel, and Boghead coals, have been latterly distilled for the sake of the naphtha and oils which they afford at a low temperature. The coal principally employed in this manufacture is that found at Bathgate, in Scotland, and known as Boghead coal, the constitution or nature of which has recently given rise to a great difference of opinion among scientific men, some considering it a bituminous shale, while others view it as a true coal. Its average composition is as follows:

Earthy matter . . .	20	to 25 per cent.
Total carbon . . .	60	" 65 "
Hydrogen	7 1-2	" 9 "

Of the carbon, only from 6 to 16 per cent is fixed, or remains in the retort after distillation, owing to the large amount of hydrogen, which is greater in this than in any other variety of coal. In preparing the paraffine oil, now most extensively used for lubricating machinery, the coal is broken into small pieces, and distilled in an ordinary gas-retort, connected with a worm-pipe passing through a refrigerator, and kept at a temperature of 55 degs. Fah., by a stream of cold water. At a low temperature the pipe is liable to be clogged, in consequence of the solidification of the paraffine. The retort being charged, is gradually raised to a dull red heat, at which temperature it is kept as long as volatile products escape. An increase of temperature is prevented, which would convert the otherwise condensable products into permanent gases, which, to some extent, always escapes, and may be collected or burned.

The crude paraffine oil obtained in the distillation is heated to 150 degs. Fah., by means of a steam pipe, when water and mechanical impurities separate, and the oil, having been kept warm for twenty-four hours, can be run off into another vessel, leaving the foreign matters behind. The oil is then re-distilled in an iron vessel, and connected with a condenser kept at 55 degs. Fah., as before. Nearly the whole passes over, leaving a small carbonaceous residue. From the condenser the oil flows into a leaden vessel, where ten gallons of oil of vitriol are mixed with every 100 gallons, by constant agitation for an hour. It is then left at rest for twelve hours, during which time the acid, and the substances it has extracted, settle to the bottom of the vessel.—The oil is then drawn off into an iron vessel, and mixed with caustic soda of sp. gr. 1·3, 4 gallons of this solution being added to every 100 gallons of oil. Agitation is again kept up for an hour, and again the whole allowed to settle during six or eight hours, when the oil is removed from the alkaline solution, and again distilled with about half its bulk of water, which relative proportions are kept constant by the addition of water during the distillation. The steam carries over with it an oil or naphtha lighter than paraffine oil, which separates as it leaves the worm, coming to the surface of the condensed water. This oil or naphtha may be employed for illuminating purposes. The oil remaining in the still is separated carefully from the water, and again treated in a leaden vessel, with about 2 gallons of oil of vitriol to every 100 gallons of oil, constant stirring being kept up for six or eight hours, and then left for twenty-four hours to allow the acid to settle down. This oil is agitated with chalk, ground up into a thin paste with water, 28 lbs. of the paste being added to every 100 gallons of oil. In this manner every trace of sulphurous acid, which is copiously evolved during the action of the vitriol, is removed, and the oil kept at 100 degs. F., for about a week. This is necessary, to separate the impurities. The oil is then fit for use, as a lubricating agent, or for illuminating purposes, either alone, or mixed with fat oils.

To obtain solid crystalline paraffine, which is contained in solution in this oil, the oil is cooled as much as possible, when crystals of paraffine are formed, and may be separated from the liquid oil by filtration through woolen cloths. The lower the temperature, the greater the amount of solid paraffine which separates. The crystals are collected and submitted to pressure, that the last portions of oil may be squeezed out. In order to obtain the substance perfectly pure, it must be treated once or twice with its own bulk of oil of vitriol, washed subsequently each time with caustic soda, and lastly with pure warm water. The solid substance thus obtained is admirably adapted for making candles; but the last processes of purification are too costly to admit of its being manufactured for that purpose at present.

[The above is taken from the most recent edition of "Knapp's Chemical Technology," which we noticed a few weeks since. This information respecting the manufacture of oil from bituminous coal, should stimulate some of our owners of cannel coal mines to commence its manufacture.

At Buel, near Bonn, on the Rhine, there is a factory in which solid paraffine is made from a bituminous shale. It is sold for about half a dollar per pound, and made into candles which rival those made of wax. It is our opinion that a profitable business may be carried on at any of our cannel coal mines in the manufacture of coal oils, to be used for lubrication, illumination, and also for mixing with various kinds of paints.

Horse Flesh as Food.

The editor of the *Union Medicale* gives an amusing account of a dinner to which he was recently united in Paris, invited by M. Renault, Director of the great Veterinary School at Alfort. The object proposed was a comparative test of the qualities of beef and horse flesh. The horse flesh was obtained from a fat animal twenty-three years of age. The editor speaks in glowing terms of horse flesh soup, and it may be said that a new article of food has been added to the *French service*. The Tartar tribes eat horse flesh; the French are learning to be as civilized.

Creosote for Warts.

Dr. Rainey, of St. Thomas' Hospital, London, has written an article to the *Lancet*, detailing the effects of creosote applied to warts. He applied it freely to an obstinate warty excresence on the finger, then covered it over with a piece of sticking plaster. This course he pursued every three days for two weeks, when the wart was found to have disappeared leaving the part beneath it quite healthy.—This is certainly a remedy which can be easily applied by any person.

By the return made to the Patent Office, it appears that between the years 1840 and 1850 three hundred thousand acres of land were added to those previously under improvement in Massachusetts, and during that time there was a reduction of one hundred and seventy seven thousand in the number of sheep and swine.

Wine Manufacture in Georgia.

The Southampton *Cultivator* states that the attempt to manufacture wine from a native grape has been successfully tried by Mr. A Leary, of Monroe County, Ga. The grape it known as the "Warrenton" and the produce is at the rate of eight hundred gallons per acre

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New Inventions.

Wealth of Atlantic Cities.

The Boston *Traveler* gives the following account of the wealth of certain cities :—" The wealth concentrated at the great commercial points of the United States is truly astonishing. For instance, one-eighth part of the entire property of this country is owned by the citizens of New York and Boston. Boston alone in its corporate limits owns one-twentieth of the property of this entire Union, being an amount equal to any three of the New England States, except Massachusetts. In this city is found the richest community, *per capita*, of any in the United States. The next city, in point of wealth, according to its population, is Providence, R. I., which city is one of the richest in the Union, having a valuation of fifty-six millions, with a population of over fifty thousand. The bare increase per annum of the wealth of Boston is equal to the entire valuation of many of the minor cities, such as Portland, Salem, New Bedford, Chicago, Louisville, &c."

Accumulating Power Press.

The engraving illustrative of the present invention has already been once published in the Scientific American, but in consequence of a misapprehension on the part of the editor in regard to the operation of the machine, an error was made in the printed description; we therefore deem it but an act of justice to the inventor to reproduce his drawing, and set him right before the public. By reference to fig. 2, on page 80, the arrangement and action of the small interior levers on the ends of the large levers, C C, confined between the standard plates, E, will be understood.

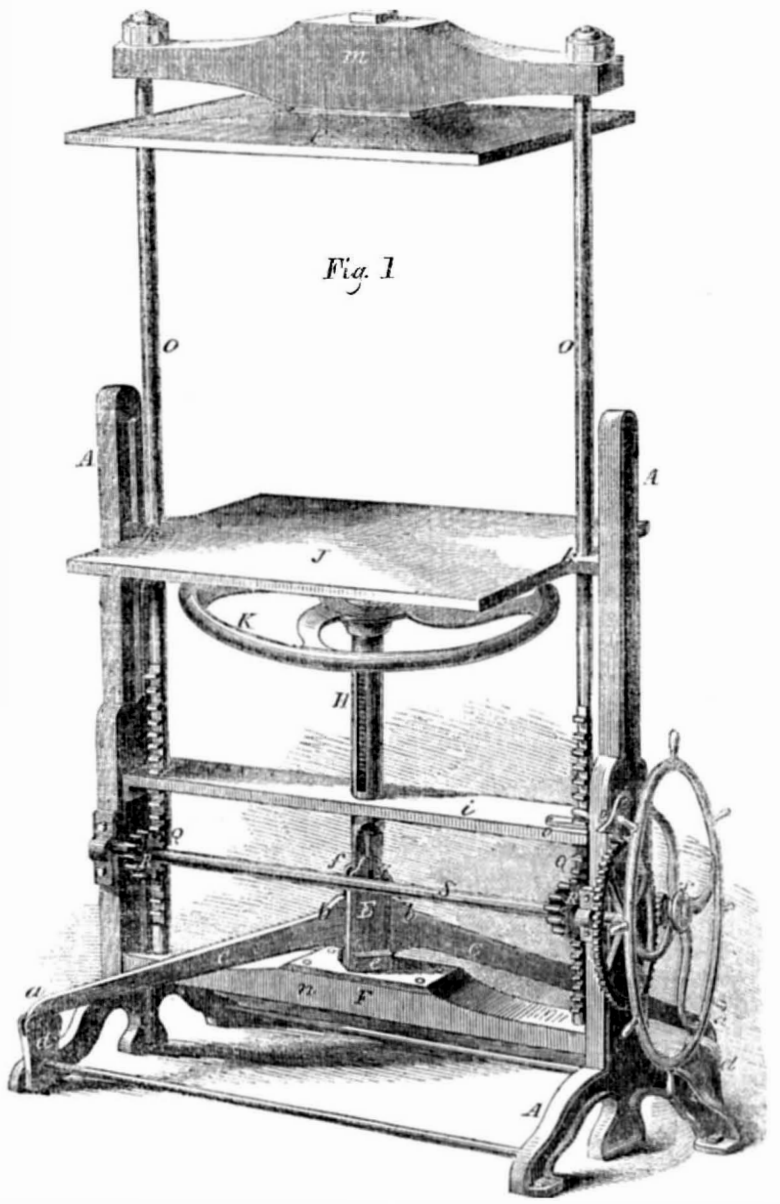
The nature of this invention consists in so arranging a series of horizontal and vertical knuckle joint levers below the screw and bed-plate, that a powerful pressure upward in a straight line, may be exerted upon the article under operation, by reason of its gravity, with that of the moving portion of the press.

A A are standards which, connected by the cross-tie, *i*, and rods through their feet, constitute the permanent frame of the press. *m* is the top and F the bottom beams, connected by the side rods, *o o*, constitute a moving frame, which is supported by, and moves freely up and down within the permanent frame, holes being formed in the cross-tie, *i*, and the lugs, *k k*, of bed plate, J, through which the side rods, *o o*, and standard, H, may freely move. C C are the main levers, placed diagonally across the press, the inner ends, *b b*, have sockets formed in them at the top and bottom, those of the latter fitting snugly over, and resting upon semicircular projections on the bottom, *e*, and thus form socket joints. The outer ends, *a a*, have semicircular projections, which fit in sockets formed in the vertical levers, *d d*, and rest on them, these levers, *d d*, have sockets on their lower end, which fit over and rest upon semicircular projections on the bottom of the standards. The small vertical levers are formed with circular ends which fit snugly in the sockets formed in the top of the inner ends of the main levers, C C, and the standard, H, in which sockets are formed to receive them,—loose knuckle joints at all these points are formed. The standard, H, being made hollow, a portion of its length receives the screw (seen through the slot in H,) which carries the bed plate, J, to which it is secured—a recess or shoulder being formed on its underside.

The nut wheel, K, is made to rest, and turn freely on the top of the standard, H. By turning this wheel forward and back, the bed plate is raised or depressed at pleasure. The top platen, P, is secured to the top beam, *m*, by a ball socket joint bolt. E are plate standards, (one on each side,) secured to the bottom beam, F, between which the knuckle joint levers freely move. The side wheel, T, carries a pinion, which drives the gear wheel on the shaft, S, which is secured to the outside or permanent frame, A A. R R are pinions working in the racks, Q Q, on the rods, O O, of the inner or moving frame.

Operation—When the article to be pressed is placed on the bed plate, J, the inner or moving frame is raised by the side wheel, T, the pawl, *o*, retaining it in position. This operation causes the main levers, *c c*, and the small levers between the plates, E, to assume angular positions. The bed plate, J, is also caused to recede from the top platen a considerable distance; by turning the wheel, K, forward, the bed plate is again raised, and the substance pressed as hard as convenient; the pawl, *o*, is then raised from the gear wheel, and the inner frame, together with the substance under operation, is sustained upon the outer ends, *a a*, of the main levers, C C, which are thereby

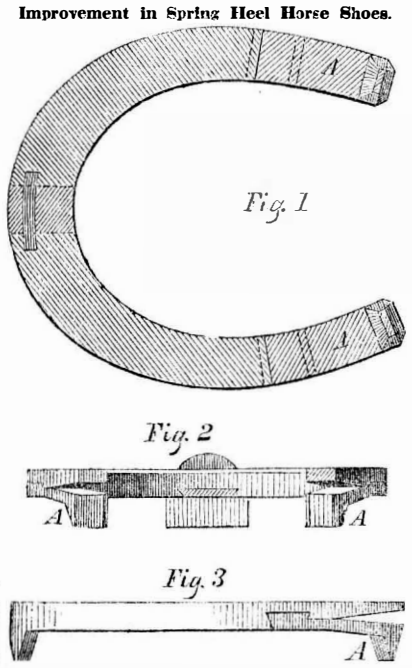
DAVIS' SELF-ACTING ACCUMULATING POWER PRESS.



obtained, the movable frame is raised as before described, by means of the side wheel, T, the wheel, K, receives a few turns to block up the press, which brings the levers again into effective operation. When the operation is completed, the movable frame is raised sufficient to relieve the nut wheel, K, which may be turned back, the press let down, and the article removed.

The patentee says, "this press is particularly adapted to pressing books, paper, cloth, oils, and all substances which are in themselves somewhat compact, but require a very severe power; it possesses decided advantages over the common screw press, and some advantages over any press in use, in that the power is constantly increasing as the substance under operation becomes more compact. A silver medal was awarded this press by the American Institute, at their 27th annual fair held at the Crystal Palace.

Improvement in Spring Heel Horse Shoes.



For the safety of horses, to prevent them slipping and falling, it is imperative that their shoes should be well corked for traversing the streets of this and other cities, especially during frosty weather. And yet, it is a fact that there is nothing more painfully common just now than to witness horses falling and injuring themselves on our slippery streets, owing to their not being well shod with corked shoes. The cause of this is, no doubt, the great expense entailed in keeping the heel and toe pieces of the shoes in good order, because the shoes have to be taken off the animal for the purpose of corking them.

The accompanying engravings represent an invention designed to afford a remedy for the evil, and for which a patent was granted to Wm. H. Towers, of Philadelphia, on July 25th, 1854.

The nature of the invention consists in attaching spring corks or plain springs to the heel of the shoe, by means of dovetails, swedging, or other firm means, in such a manner as to enable the corks and springs to be removed and replaced, in case of wear, without the necessity of taking the shoe from the horse's foot, which saves time and expense, allows of shoes being kept cheaply corked, to prevent the animal slipping and falling in wintry weather besides the advantage obtained by the elastic heel acting as a relief to the shock experienced by the horse in the violent planting of his feet on the ground.

Figure 1 is a view of the under part of a horse shoe, with the improvement attached. Fig. 2 is a view from the rear end of the shoe, showing the spring heels, A, on either side, and the detachable dovetailed toe in front, and fig. 3 is a side view of the shoe, showing the manner of attaching the spring heel, A.

It will be understood that the shoes are made with dovetailed or wedge recesses, as represented, and springs are made to fit firmly in these recesses, the heel corks being welded on the outer or flexible end of these springs. No further description is necessary to explain the invention.

We have been informed by the patentee that this improvement has been successfully applied to horse shoes, and has been very beneficial to horses, both as it respects the cheap and easy method of re-corking and the prevention of some horses stunning their limbs by plunging their feet violently, which is prevented by the spring heels, A.

Further information may be obtained by letter addressed to Messrs. Towers & Safford, (box 2000, post office, Philadelphia,) who have obtained favorable testimonials of this elastic horse shoe from veterinary surgeons and blacksmiths of the highest character.

Economy of Fuel.

"The expensive and wasteful manner in which most houses are warmed with coal calls loudly for reform. A moderate sized house, with a furnace in the cellar, a stove in the dining room, and a range in the kitchen, consumes from 15 to 17 tuns of coal per annum, at a cost exceeding that at which such houses were warmed with wood before coal was thought of. True, our houses are warmer, and some persons think more comfortably now, than they were then; and so they ought to be at the increased expense. But if coal is to be as advantageous as it was at one time supposed it would be, then we should have our houses a little warmer and more comfortable than we had when wood was the fuel, and at a lower price. Cannot some of our ingenious mechanics invent a warming apparatus that shall possess all the necessary requisites, at a greatly reduced cost?

In Russia, where the winters are much longer and colder than they are here, their houses are heated by a kind of furnace or stove called, if I remember right, a *peche*, by which a bundle of fagots, morning and evening, certainly not more than three times a day, introduced into the *peche*, will keep the rooms at a uniform temperature of about 70 degs. Fah. This would certainly be cheaper than our present mode of heating our houses by coal; but if some enterprising mechanic who has seen these Russian stoves and understands their construction, would erect something of that kind, only using coal instead of wood, it might become very popular, and thus induce families to use separate houses, which would encourage building, and enable many families to pass through the winter comfortably, who now almost dread to see cold weather approaching.

The man who will invent a cheap and efficient mode of warming moderate sized dwellings would make a fortune."

[The above is from a correspondent signing himself "Reflector," in the Philadelphia *Ledger* of the 10th inst. For his benefit (and others who may wish to obtain like information,) he will find one of the Russian furnaces described and illustrated on page 28, Vol. 5, Scientific American. The Russian furnaces are not peculiar to that country. They are easily built, and coal can be burned in them as well as wood.

Robert Fulton.

We are indebted to Messrs. Reigart and Dellinger, of Lancaster, Pa., for a handsome colored lithograph of the birthplace of Fulton. No doubt many of our readers would like to possess this picture as a memorial of this celebrated man. It can be had of the publishers as above.

A good newspaper is like a sensible and sound-hearted friend, whose appearance on one's threshold gladdens the mind with the promise of a pleasant and profitable hour.

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Scientific American.

NEW-YORK, JANUARY 19, 1856.

Safety in Traveling.

When a person enters a railroad car, or a steamboat, to go on a journey, he places the safety of his person and property in the trust of those who have charge of the means by which he is to travel. When we consider how many thousands—yes, millions—of our people who travel by public conveyances, we can at once appreciate the great responsibility which rests upon the conductors of the common public means of travel—the railroad and steamboat. No country in the world has earned for itself such an unenviable reputation for reckless destruction of life as ours, by what are termed *accidents*. A few months ago, a terrible accident took place on one of the New Jersey railroads, by which a great number of persons were killed and wounded : and another nearly as fatal was noticed by us last week, as having occurred on the Pennsylvania and Ohio Railroad, by a collision. The sure prevention of such accidents would be hailed with delight by every person. Well, does any person doubt that the means to prevent them are known, and that they only require to be carried into execution to insure a consciousness of safety to every traveler? Double tracks on railroads would prevent direct collisions, and other known means of safety might be so applied, and conducted as to prevent almost every kind of accident whatever.

The steamboats on our Western rivers had become a terror to all travelers, on account of the frequent explosion of their boilers, and the destruction of human life, caused thereby. These explosions occurred so often, and were so disastrous in their effects, that many persons really believed they were caused by some unknown forces or agencies, over which man could exercise no control. But there were those who knew how such accidents were caused, and who were confident they could be prevented. Their labors to effect a reform in steamboat management, led to the enactment of a salutary law, by Congress, in 1852,—a law which has already been the means of rendering the character of Western steamboats as famous for safety, as they were but a few years since for danger. The different steamboat inspectors appointed under this law meet once every year, make reports and hold consultations. The last meeting was held at St. Louis in October, but the proceedings have not been published until now, for a copy of which we are indebted to Inspector B. Crawford, Esq., of the Seventh District. Only four explosions out of 1032 licensed vessels took place in the year, and by three of these only 25 lives were lost; by the other, in California, 80 lives were lost. This is very different from the reports of explosions four years ago, when they were then occurring almost every week on the Ohio and Mississippi rivers.

This law has operated well for the safety of life and property, by steamboat traveling, thus proving that the means of safety were well known, but only required to be called into requisition. And may we not say the same of railway traveling. The means to insure greater safety of life, on railways, are well known, and only require to be called into requisition. In view of these facts, the citizens of every State, should use their influence to get such laws enacted, as will render railroad traveling as safe as it is possible to make it,—the safety of life in traveling should ever be a prominent object of solicitude to our people and legislators.

Glycerine in Lung Diseases.

Our attention has been directed to an article on the above-named subject in the New Orleans *Medical News*, by Dr. J. L. Crawcour, who has devoted great attention to such diseases, and who has found glycerine not only a safe, but a most useful remedy in many cases. Cod liver oil has proved to be an invaluable agent in tuberculosis, but it is generally repugnant to patients, as it induces nausea. In phthisis, accompanied with dyspepsia, it is exceedingly difficult to restore the digestive organs to a healthy condition, hence it has become a matter of great importance to the physician to find some agent which, while it possesses the remedial virtues existing in cod liver oil, is free from its nauseating peculiarities. The medical superiority of cod liver oil is not due to it being simply an oil, for other oils do not produce the same effects; nor is it owing to its combination with "iodine," as has been proved, by these agents failing to produce the same effects when tried. One constituent which cod liver oil possesses in very large quantities is *glycerine*, and Dr. Crawcour states that the richer it is in this constituent, the more easily is it assimilated to the system into which it is introduced, hence he finds glycerine admirably adapted for assimilation by the human organism. He says, "glycerine forms the basis of all the fats of the human body, and lactic acid is found in all the juices of the body. If we examine the analyses of these two substances, we shall be struck by a chemical coincidence. Lactic acid is composed of C.6, H.5, O5, (carbon, hydrogen, oxygen.) Glycerine is composed of C.6, O.5, H.7, the difference between the two being only two equivalents of hydrogen. Grape sugar, milk sugar, and starch, generally consists of C.12, H.12, O.12; or two equivalents of lactic acid, or two equivalents of glycerine, minus two of hydrogen. When sugar or starch is taken as food, they must be converted into lactic acid to be used in the economy of the human system. Lactic acid is decomposed by the respiratory process, and contributes to the heat of the body." Reasoning upon such premises, Dr. Crawcour comes to the conclusion that glycerine, which contains two atoms more of hydrogen than sugar or starch, must act more efficaciously than lactic acid. He says, "as one of the sources of lactic acid to the system is due to the destruction and metamorphose of muscular tissue, we may account for the wasting in phthisis, and for the remarkable benefit in the use of cod liver oil, without supposing that the power is due solely to the absorption of the fatty material of the body; or that the latter is due solely to the assimilation of the carbonaceous material of the oil."

In lung diseases, one object of treatment by physicians is the use of an agent or medicine on which the oxygen of the air may act instead of acting upon the tissues of the patient.—Starch, sugar, alcohol, &c., are of the class of combustive medicinal foods, but in pulmonary diseases the assimilating powers of the body are impaired, and it is a very important question to obtain that food most suitable for those who have weak digestive organs. Dr. Turnbull, of London, recommends sugar of milk as the best alimentary substance to be used by consumptive persons, because it is readily digested, and has a great affinity for oxygen, and during a long experience in the Hospital for Consumption in London, he had found it very useful. This distinguished physician had tried experiments with different kinds of oils in lung diseases, but all were unsatisfactory except cod liver and cocoa nut oils, which were very beneficial, and equally favorable in their results. The superiority of pure cocoa nut oil, as well as cod liver oil, Dr. Crawcour considers, is due entirely to the large amount of "glycerine" which they contain, and he advocates its adoption as a most valuable medicinal agent, because it has an agreeable taste, is easily assimilated by the system, and has the property of entering into combination with almost every article in the *materia medica*.

Any new information regarding the treatment of consumption is of great importance, because this disease is one of the most insidious and prevalent in our country. More persons die of it in New York than of any other single disease, and this is the case, we are informed, in all the cities in the States bordering on the Atlantic. Any new medicine or mode of treatment to ameliorate or arrest this disease, will be a boon to a very large number of afflicted persons. We hope that *glycerine* will prove to be a useful medical agent in its treatment, and that it will prove superior to any other heretofore used.

The Artizan Journal.

The attention of our readers is called to the advertisement, in this number, of the U. S. agent of this valuable publication.

Tin, and its Uses.

Every child in the land knows what tinware is, but the number of persons who have even seen a piece of pure tin, or are acquainted with its nature and various uses is not large. Tin or "stannum" is one of the ancient metals, and was known to the old Egyptians and Hebrews. It is found in the state of an oxyd in various countries—Spain, Hungary, South America, and the Indian Archipelago, but most abundantly in Cornwall, from which place it was obtained by the Phœnicians, when Tyre was mistress of the seas, and before Britain bore the impress of the Roman's heel. As a metal it has a white brilliant appearance, is very malleable, emits a crackling sound when bent, a peculiar odor when rubbed, and when cooled slowly from a molten state it crystallizes The tin-stone of Cornwall is found in veins associated with copper ore, in granite and slate rocks, hence it is called "mine tin." The oxyd of tin is also disseminated through the rocks in small crystals; and in alluvial deposits it is found mixed with rounded pebbles, and is called "stream tin." When tin ore is mixed with copper—after being roasted—it is treated with sulphuric acid, which dissolves the copper but not the tin. After it is washed, the ore—then called "black tin"—and is ready for smelting. The common method of smelting the ore is in a reverberatory furnace with coal, the ore being mixed with powdered anthracite or charcoal. When very pure metal is required the smelting or reducing is conducted in a small blast furnace, powdered charcoal being used to mix with the ore, also a very small quantity of lime as a flux. After the first smelting of the ore, it generally requires two other smelting operations to purify it for use. All these demand great care and experience to conduct them economically. The refined and purest tin is that which is used in the manufacture of tin plate, the tin being used for this purpose in a molten state, and thin plates of iron dipped into it, just like dipping thin boards of wood into liquid varnish. The metal plates for tinning are made of the best charcoal iron. All the oxyd is first removed from them, then they are scoured bright, and kept in soft water ready to be dipped in the molten tin. The tin is melted in an iron pot over a fire, and its surface is covered with about four inches of molten tallow. The prepared plates are dipped in this, and left to steep for an hour or more, when they are lifted out with tongs, and placed on a rack. The plates generally have a surplus quantity of tin adhering to them when taken out of the first pot; this is removed by dipping them into a pot of molten tallow and brushed. Great care and experience are required in all these manipulations in order to cover the plates smoothly, and not have too thick or too thin a coating of tin. The covering of such an oxydizable metal as iron with tin, like a varnish, is one of the most useful qualities which this metal possesses, and renders it better adapted for making various vessels, such as our common tinware, than any other metal. Nails, bridle bits, and many small articles of iron may be covered with tin, by first scouring them to remove the oxyd, then dipping them into the molten tin.

The metal is so ductile that it can be rolled out into sheets of tin-foil as thin as writing paper. It is now much used for covering tobacco, for coarse gilding, for what is called "silvering looking glasses," and for bronzing powders.

Peroxyd of tin is used by jewelers as a polishing material; and fused with glass it forms a white opaque enamel. It is much used mixed with copper, to form various useful alloys of metal, such as gun-metal, the specula for telescopes, the bearings for shafting, the bronze of statues, and was used by the ancients for swords, spears, and armor; and it is said these were tempered by a process now lost to the arts.

Block tin is struck by dies into various vessels for drinking, such as cups, tea and coffee pots, and mixed with a little copper to give it hardness it forms the beautiful "Britannia ware." In the chemical arts tin is dissolved in acids, such as nitric and muriatic, and forms a common mordant for some of the most brilliant colors printed on calicoes, and those dyed on wool and silk. The uses of tin are more various than those of any other metal, and it possesses very valuable properties. England is the greatest tin-producing country on the globe. She possesses the most abundant natural sources of this metal, and has long been *the* tin plate manufacturer of the world. The produce of the metal in Cornwall is about 10,719 tuns per annum, but it is used for so many purposes that it is the source of a vast amount of wealth to Great Britain. We cover our houses with tin plate, and we manufacture vast quantities of it into vessels of every description for domestic use. We have iron mountains, and innumerable beds of copper and lead; we have the greatest coal fields on this globe, and gold and silver exists abundantly in our hills and valleys. No country is so rich in useful minerals, but as yet no rich deposits of tin have been discovered. We have some faith in the existence of this metal in our rocks, and that it will yet be obtained in considerable quantities. We hope that more attention will be devoted to prospecting for it, as it is more valuable than copper, and far more useful.

We pay $4,709,000 annually for tin plate and sheets; $23,000 for tin foil; $724,000 for tin in pigs and bars, and $44,000 for unspecified tin manufactures.

Remonstrances Against Extending the Woodworth Patent.

We have received, with request to forward to Washington, a long petition from Bethlehem, Pa., remonstrating against the extension of the above thrice-granted patent. It is signed by nearly all the respectable citizens of that town. These names were obtained in a short time by Mr. Lewis Dotter, Jr. His success shows how well repaid will be the efforts of any person who chooses, in like manner, to lend his aid to the good work. We hear that the remonstrances are rapidly being filled up wherever they are presented. The subject is one of great importance; the public feeling is right in the matter, and the opportunity of giving expression to the same is all that is needed to insure the speedy downfall of an unjust and powerful monopoly. Come forward mechanics, and lend a helping hand. Copies of blank petitions can be had gratis at this office. Enclose two red stamps, for postage.

Foreign Patents.

Special attention is devoted by us to the obtaining of foreign patents. The facilities of business and communication with Europe are now so great that patents can be obtained abroad almost as easily as at home; and they are equally as valuable to the inventor. Information as to procedure, &c., can at all times be obtained at the Scientific American office.

Report on Explosion of the Steam Fire Engine.

The committee of the Common Council of Cincinnati appointed to inquire into the cause of the explosion of the steam fire engine *Joe Ross*, have made a report stating the causes to be too little water in the boiler, thus causing the too rapid generation of steam, and that the steam chamber was not sufficiently stayed. The Committee also reported in favor of the superiority in stength of Shawk's boiler over Latta's.

The boiler recommended is of a cylinder form, and of small diameter, and has thick heads well stayed. The exploded boiler had a square fire box, and consequently was not so strong.

Block Tin for Soldering Silver.

In a communication to the *Dental News Letter*, J. K. Rickey, of Keokuk, Iowa, states that he has found "block tin" superior as a solder for silver plates, to the ordinary solder, which is made of "brass and zinc." He puts on, with a brush, a little of the chloride of zinc to the parts he wishes to solder, then applies the soldering iron and solder. The employment of the chloride of zinc for the soldering of silver plates with block tin, we have no doubt is very useful, as it has been found to be so in soldering common tin plates.

Freezing of Gas Meters.

During very severe frosts, the water in gas meters is liable to freeze, and thus prevent the gas flowing through to the burners. This occurred in numerous instances in this city last week. By filling the meters with alcohol during cold weather they will be effectually prevented from freezing.

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California.—Her Works and Ways.

WONDERS OF TABLE MOUNTAIN.—The *Union Democrat* (Sonora) continues its glowing descriptions of the riches of Table Mountain. It states that it is the richest gold region in the world. It says :—

"In addition to the enterprise of the citizens of Sonora, hundreds of persons from a distance have invested largely in money and labor, both in tunneling and sinking shafts at various points about the mountain. Last Thursday, during a trip down within a few miles of the Stanislaus river there were counted thirty-seven new shafts, and six new tunnels that had been commenced since the 15th inst. In Turner's Flat, a few miles below Jamestown, several shaft companies have struck rich leads of gold during the past week. The Boston Tunnel Company, last week, struck as rich dirt as any yet taken out. In the Mountain Pass three new tunnels have been commenced, with flattering prospects. Parcels of the gold washed at these diggings have lately been taken to the Mint at San Francisco, where it is found to be worth nineteen dollars and five cents to the ounce.

Among other new discoveries that have been made in the mountain we may mention that bushels of oyster shells, in a partially decomposed state, have been taken at the depth of one hundred and fifty-nine feet, some retaining the rough appearance of oysters just lifted from the bed of a bay. The mixed deposit of sediment and quartz pebbles in which these shells are found abounds in gold. Pure lime, equal in appearance and value to the manufactured article, has also been found in great quantities in tunneling the mountain a few miles below the Pass."

THE CALAVERAS SOAP MINE—Sonora papers mention the soap mine discovered in Table Mountain. The *Union Democrat* remarks :

"Mr. Dinsmore, of the Kennebec Mining Company, near Vallecita, has furnished us with several curious specimens of a deposit taken out of his shaft, so nearly resembling soap that it is difficult to distinguish it from the genuine manufactured article. The cakes are of a brownish hue, and, from practical test, we find they answer all the purposes of bodily ablution quite as well as any soap. The vein is about six inches in thickness, and forms a distinct stratum between what is called the pipe clay, some fifteen feet from the surface. The article is destitute of both taste and smell."

[This, no doubt, is a stratum of "Fuller's earth," a substance which produces some results similar to those obtained by the use of real soap. Fuller's earth may be successfully used in washing; it abstracts the greasy matters from the skin or cloth by absorption, and thus renders removal by scrubbing more easy. Soap, however, has a chemical effect, and the principles of its operation are wholly different. It contains a slight excess of alkali, which unites chemically with the grease, and renders it soluble in water; the particles of dirt that adhered to the skin or cloth by reason of the grease, become liberated, and are held in suspsnsion by the water.

RESOURCES OF CALIFORNIA.—The Empire County *Argus* calls attention to some of the magnificent resources of California. Look at them! Two medicinal springs in El Dorado, one of ipecac, another arsenical, and a lode of blue mass. In Nevada a soap mine, in Calaveras a chalk mine and a mine of plumbago, (also a soap mine.) Near Sonora there is a mountain of gold, with a company now engaged in cutting out a chunk of nearly thirteen tuns in weight, to be forwarded to Washington. At the same place is a diamond mine of vast extent, the earth above the bed rock on an average eighty feet deep. Two-thirds of this earth is composed of diamonds varying in size, the largest the size of a pea, the smallest the size of nothing whittled to a point."

This is, no doubt, rather extravagant language, still California is a great country.

ARTESIAN WELL ENTERPRISE.—From the California *Farmer* we learn that the Artesian Well borer of Meyers & Co. is at work at Mare Island, San Francisco. It has reached the depth of 137 feet. It struck blue clay at 117 feet, then a small strata of rock, next soft strata, then sandstone, and at present the laborers were working at 137 feet depth upon slate rock, and had 115 feet water. They have sanguine expectations of finding an abundance of pure water, but by the course of the rocks observed thus far, it will require boring to the depth of about 500 feet.

A SUBTERRANEAN STREAM BROKEN OUT—The Grass Valley *Telegraph* states that while a party of miners were engaged in driving a tunnel into a hill at the Buena Vista diggings, the workmen came unexpectedly upon a stream of water, which rushed upon them with such force and in such quantity that they were barely able to escape with their lives. The water increased gradually from a small stream, let into the tunnel by a single blow of a pick, the point of which was driven through into the subterranean current, until it filled with its volume the entire capacity of the tunnel, forcing before it, in its headlong course, huge rocks and logs, and whatever else came in its way. Its violence—produced, no doubt, by a high head pent up within the cavernous recesses of the mountain—soon began to subside, and in about three or four hours the stream had dwindled down to a little rivulet of some 25 or 30 inches of running water, which quantity it now, after a lapse of several days, steadily discharges.

A factory for making segars from native tobacco has been established in San Francisco. The tobacco is said to be excellent. Stephen Crawley, an old submarine diver, was recently suffocated in a diving bell at the depth of 24 below the surface, in San Francisco harbor.

The Gold Produce of Australia.

Part of 1851 and 1852, value in round numbers, £14,000,000; 1853, £11,500,000; 1854, £8,300,000; 1855, estimated (on nine months' produce,) £8,000,000.

Patents Issued in 1854.

CLASSES.	Me.	N. H.	Vt.	Mass.	R. I.	Conn.	N. Y.	N. J.	Penn.	Del.	Md.	Va.	N. C.	S. C.	Ga.	Ala.	Miss.	La.	Tenn.	Ken.	Ark.	Mo.	Ohio	Ind.	Mich.	Ill.	Wis.	Iowa	Fla.	Texas	D. C.	Cal.	Foreign	To. Cl.	
I. Agricultural Implements and operations	2	4	3	14	0	4	36	2	22	0	2	12	3	2	3	0	3	0	0	6	0	1	23	4	3	12	3	2	0	0	3	0	0	171	
II. Metallurgy and Manufacture of Metals,	4	2	1	18	1	12	58	13	24	0	2	3	0	0	0	1	0	1	1	2	0	0	7	2	0	3	1	0	0	0	1	1	7	163	
III. Manufacture of Fibrous and Textile Substances	3	3	1	63	4	7	31	10	19	0	1	3	0	0	2	0	0	0	2	1	0	0	3	3	2	0	1	0	0	0	1	1	5	161	
IV. Chemical, Proc., Manuf, and Comp.	0	1	0	11	1	3	26	10	11	1	2	0	0	0	0	0	0	1	2	1	0	0	3	0	0	2	1	0	0	0	0	1	2	78	
V. Calorifics, Lamps, Stoves, &c.	0	1	2	21	1	5	42	4	16	0	3	1	0	0	1	3	0	0	0	1	0	0	4	7	0	2	1	0	0	0	0	1	2	107	
VI. Steam and Gas Engines	0	1	1	13	1	4	17	7	18	0	3	0	0	0	1	0	0	0	2	0	0	0	5	4	0	2	1	0	0	0	0	1	1	83	
VII. Navigation and Maritime Implements	2	2	1	18	1	3	14	2	23	0	2	0	1	0	0	0	0	1	0	0	0	0	1	2	0	4	0	0	0	0	0	0	1	53	
VIII. Mathematical, Philosophical and Optical Instr'mts.	0	1	0	8	1	2	6	2	2	0	1	1	0	0	0	0	0	0	1	1	0	0	2	1	0	1	0	0	0	0	0	0	1	25	
IX. Civil Engineering and Architecture	0	1	1	12	1	6	24	1	9	1	1	1	0	0	0	1	0	0	1	1	0	0	5	2	0	2	0	0	0	0	0	0	1	78	
X. Land Conveyance	1	2	3	11	1	3	25	1	23	1	2	1	0	1	0	0	0	1	1	1	0	0	3	4	0	2	0	0	0	0	0	0	2	95	
XI. Hydraulics and Pneumatics	1	2	1	11	1	4	21	1	15	0	0	2	0	0	0	0	0	0	1	0	0	0	4	9	0	4	0	1	0	0	0	0	1	71	
XII. Lever, Screw, and other Mechanical Power	1	1	2	6	1	4	9	1	3	0	4	1	0	0	0	0	0	0	0	0	0	0	3	4	0	3	0	0	0	0	0	0	1	35	
XIII. Grinding Mills and Mill Gearing	0	2	0	4	0	1	7	1	11	3	1	2	1	0	0	0	0	0	1	0	0	0	1	8	0	6	3	0	0	0	1	1	1	52	
XIV. Lumber, Machines for Manufacturing	7	6	4	31	1	10	29	8	20	0	1	5	0	0	1	0	0	1	0	2	0	0	2	17	6	3	1	0	0	0	4	2	3	163	
XV. Stone and Clay Manufactures.	1	0	0	3	1	4	13	3	20	1	3	2	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	1	45	
XVI. Leather—Tanning, Dressing, and Manufacturing	2	3	0	14	1	3	8	1	5	0	2	3	1	0	0	0	0	0	0	0	0	0	4	7	1	1	2	0	0	0	0	0	1	47	
XVII. Household Furniture, &c.	0	3	3	20	2	4	19	0	7	0	1	5	0	0	0	0	0	0	0	0	0	0	6	8	2	1	2	0	0	0	1	1	0	82	
XVIII. Art—Polite, Fine, and Ornamental.	3	1	0	25	1	6	35	5	12	0	2	0	1	0	0	0	0	1	0	0	0	0	0	2	1	2	1	0	0	0	0	0	0	108	
XIX. Fire Arms and Implements of War.	1	1	0	5	0	6	11	2	12	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3	1	1	1	0	0	0	0	0	0	37	
XX. Surgical and Medical Instruments.	0	0	1	5	0	0	9	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	22	
XXI. Wearing Apparel and Implements for Manufacture	0	0	1	1	0	6	8	0	6	0	1	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	27	
XXII. Miscellaneous.	0	0	0	1	1	4	18	4	5	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	35	
Totals.	28	39	27	323	18	101	466	78	236	7	31	42	7	4	7	5	5	5	9	21	1	10	125	36	15	34	8	2	1	3	25	5	35	1760	
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Additional Improvements,																																		11	
Re-issues,																																		34	
Designs,																																		64	
Grand Total,																																		1902	

REMARKS—New York has the greatest number of patents. Massachusetts, Connecticut, and New York, are the only States which have patents in every class.

Massachusetts has the greatest number of patents in one class, 63.

New York takes the lead in Metallurgy, 58.

Massachusetts in Textile Fabrics, 63.

Pennsylvania in Steam and Gas Engines, 18, but one, however, ahead of New York (17,) that one may be the gas engine from Philadelphia.

New York takes lead in classes 1, 2, 4, 5, 7, 9, 10, 11, 12, 15, 18, 19, 20, 21, 22.

Massachusetts takes lead in classes 3, 8, 14, 16, 17.

Pennsylvania takes lead in classes 6, 13.

Arkansas and Florida have each only one patent.

New York, Connecticut, and Massachusetts, have more than one half the whole number of patents, excluding extensions, &c.

Massachusetts has one patent to 3050·9 of population.

Connecticut has one patent to 3298 of population.

New York has one patent to 6541·1 of population.

Pennsylvania has one patent to 9565·2 of population. This statement shows Massachusetts and Connecticut to be really nearly equal in inventive genius, while it reduces New York one-half, thus giving the two former States the lead.

The most numerous patents were for sewing machines, being 34. The next, Planters, 32. The next, Fire Arms, 30.

There were designs for stoves, 42.

The most novel were a hen's nest, a tape worm trap, shirt collars, and coffins, for which last there were three. T. G. S.

[The above table is similar to that prepared by our correspondent last year, but valuable and useful as that one has proved to be, this one is more valuable still, because it is divided into more classes. It has cost him much labor and patience, and he has executed his work with great care. We take upon ourselves to present him the thanks of all our readers for this labor of love in the cause of invention.

The Southern Minnesota *Herald* says that Mr. Looney, of Root river, gathered this year 4,000 bushels of corn off 70 acres, more than half of which had not been touched from the time it was planted.

A New Theory of Light and Heat.

1st. Heat nowhere exists by itself, but must be connected with matter, and has no power of transmission except through matter. 2nd. Latent heat exists in all matter, but solid matter contains less than fluid, and fluid than vapor. 3rd. Heat also exists in a sensible and free state, that is, capable of being given out from or absorbed by matter. 4th. Heat in connection with matter exists in a luminous state. The sensible temperature of the earth is raised by reducing gases and aqueous vapor to water, and water to ice; for the latent heat is then set free; hence the atmosphere, being the receptacle of this heat, is capable of supporting combustion and other chemical changes. All light is the result of combustion, and is as much flame as the source from which it emanated; for it can be condensed by refraction through a lens and rendered more powerful than flame produced by artificial means. Hydrogen gas is given off from the earth's surface, and, coming in contact with oxygen, the result is combustion, which forms the "beautiful flame called the blue sky," and is the source of all the light the earth receives. To supply the necessary ingredient all the fluid and solid matter on the surface contribute their share. Now, gases differ from aqueous vapor and effluvia, for these can be reduced by extracting their sensible heat; but neither water nor steam can be decomposed into oxygen and hydrogen by sensible heat only; another chemical process is necessary, which the author calls digestion, by which the atmosphere is replenished with the necessary means of combustion. There are two actions in nature, mechanical and chemical, to which the author adds a third "ignipotent"—which is again subdivided into "local action," that is, confined to the earth's surface; and "general action," existing throughout creation. The combination of the two actions in the atmosphere produces from the ignipotent influence of the sun all that ocean of flame which is called sunshine or daylight; while the ignipotent influence of the moon acts with a greater degree of intensity. The sun's influence upon the atmosphere is the same as the moon's upon water."

[The above is a summary of the views respecting light and heat, by G. F. Harrington, England, who has recently published a paper on the subject, that has caused considerable discussion among English savans. It is an effort to supersede the theories of Descartes, Newton, and Herschel, respecting light and heat, and the office of the sun; some of the views are different from any heretofore presented through our columns on these questions.

Keep the Mouth Shut During Cold Weather.

In the *Journal of Health*, Dr. Hall advises every person who goes out into the open air from a warm apartment to keep the mouth shut while walking or riding. He says :

"Before you leave the room bundle up well—gloves, cloak, comforter—shut your mouth before you open the street door, and keep it resolutely closed until you have walked briskly for some ten munites; then, if you keep on walking, or have reached your home, you may talk as much as you please. Not so doing, many a heart once happy and young now lies in the church-yard, that might have been young and happy still. But how? If you keep your mouth closed and walk rapidly, the air can only reach the lungs by a circuit of the nose and head, and becomes warmed before reaching the lungs, thus causing no derangement; but if you converse, large drafts of cold air dash directly in upon the lungs, chilling the whole frame almost instantly. The brisk walking throws the blood to the surface of the body, thus keeping up a vigorous circulation, making a cold impossible if you don't get into a cold bed too quick after you get home. Neglect of these bring sickness and premature death to multitudes every year."

To Prevent Horses Falling.

One of the omnibus lines in this city has applied a safety cradle to their stages, to prevent the horses falling on the Russ pavement. It consists of straps connected with the front part of the stage, stretching forward and slung under the body of the horses, so as to hold them up when they slip on the pavement. The object of the invention is good, and very necessary.

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TO CORRESPONDENTS.

G. & G., of Troy, N. Y.—You surely do not mean to be understood as asserting that the water which flows through an area of 500 inches under a six-foot head, is equal to forty-two horse power. This is what your letter states; also that you will warrant a wheel built by you, having such an area of openings, and running under such a head, to work up to 34 1-2 horse power. There must be some misunderstanding of the matter. A well-known work on water wheels makes the power equal to ten-horse: we do not make it nine, by calculation. How do you calculate the power?

C. I. F., of Me.—Grease and chalk, as you infer, is a good composition for smearing the bright work of engines, when they have to be stopped for a few weeks. A four-horse engine should drive your shingle machine freely; the power, you know, lies in the steam. Some engines in this city of six-inch bore and twenty-inch stroke are run as high as ten-horse.

Q. H., of N. Y.—There is nothing very singular in the fact you bring to our notice in regard to the germinating power in seeds. It is said, on good authority, that leathern bags of beans answering exactly to our kidney ones were found upon the first discovery of the ruins of Herculaneum which were taken to England and successfully cultivated. In the condition in which they were found, they were hermetically sealed from all decomposing elements, such as water and air.

M. S., of Mass.—Great care should be taken in cleaning old pictures. Sometimes blue starch or the white of eggs is used for this purpose, but neither substance is suitable, and should never be used. We have seen it recommended somewhere to clean pictures well with a soft sponge dipt in warm beer, then let the picture become perfectly dry, and wash it with a solution of the finest gum dragon steeped in water.

W. F., of Ct.—Your ideas in regard to an establishment for the protection of needy genius, have been carefully considered. They are certainly generous, but we regard such a scheme as perfectly impracticable in this country. An institution of this character would be perfectly overrun with applicants, requiring a vast amount of discrimination from investigating committees composed of thoroughly practical men. A workshop and laboratory supplied with tools, apparatus, &c., also an extensive library, all of which would involve an expense which no body of men would incur expecting any return for their investment.—An establishment of this kind got up on a penny-whistle scale would be worse than an imposition, as there could be no effectiveness in it whatever.

P. S., of Boston—You can make red ink by taking a small quantity of the best carmine, about the size of a pea, put it into a small vial with a little spirit of harts-horn to dissolve it; when dissolved add as much pure water as will give it the shade wanted. Keep the cork out of the vial for some time, to let the spirit of harts horn escape, when it is ready for use.

H. W., of Vt.—The spirit you bring into your article is not good, besides it is a "farago of nonsense." We cannot publish it. 1st. Because it libels the party referred to. 2nd. Because your premises are not sustained by any reliable proof. 3rd. There is no occasion whatever for you to indulge in such a strong effusion of language towards an inventor who has only acted in accordance with the instructions given by the Commissioner in all cases of interference. Your remedy is in a court of Equity, and not in a string of abusive remarks in a newspaper.

A. O., of Tenn.—Your ideas in regard to expansion horse shoes are not new, we have seen them before. It is our opinion, however, that such a shoe, if well made, would be very useful, as it would operate against the contraction of the hoof, which is liable to take place under the pressure of an inelastic ring. The shoe to which we refer had a joint at the toe, which allowed of sufficient expansion to meet the action of the foot. You will at once perceive that you are entirely anticipated.

E. S., of Ohio—From the specimens of furniture that we have seen, we are of the opinion that the Germans are the best wood polishers in the world. They employ no turpentine in their varnish, nor any other constituent that renders it gluey and liable to crack. The varnish is laid on with a linen cloth, which has previously been soaked in olive oil, and rubbed over the surface of the wood with great force in the direction of its fibers. This prepares it for receiving a thin coat of the varnish.

Henry L. Smith, of Moline, Illinois, wishes to procure some Lancewood, and presumes that some carriage maker can supply him.

B. H., of N. Y.—A spring wound up in the manner you propose, for giving momentum to cars while in the act of being started is not new. It has been proposed very frequently for city railroads.

S. H., of Penn.—Yours will meet with attention.

T. & G., of Mass.—Your alleged improvement in forge furnaces cannot be secured by patent. It contains no novel features, and could not operate with success. The gases forced back into the forge would smother the fire besides, the fire could not burn without a supply of oxygen, for which no provision is made in your arrangement.

L. D., of Pa.—Your well-filled remonstrance against the re-extension of the Woodworth patent is received. We are much pleased to find the good citizens of your place so generally opposed to it. We will send it on to your representative as soon as Congress organizes—if that event ever takes place. There is no danger of any action on the Woodworth Memorial until after the organization.

S. H. J., of Mich.—Your gun will be no infringement of the patent you speak of. You cannot obtain a patent on the application of a rack and pinion in the way you propose, to fire arms; it is so common a device that its application to produce an elevating and depressing movement is not patentable on its application under any circumstances. You cannot patent your gun as a whole, including lock, bore, priming, ball, &c., but must claim the several points of improvement separately. Such a patent as you speak of would not be worth a cent, as by changing any one comparately unimportant feature it could be evaded. If you want to patent a ball, you must apply for a separate patent, distinct from the gun.

J. P. A., of Conn.—Multiply the pressure in pounds on the inch, into the area of piston in square inches, and the product of that by the velocity of piston in feet per minute, then divide this product by 33,000, the resultant will be the horse power of your engine; deduct one-fourth of the amount for friction.

G. L., of Pa.—We do not think there is any chance to procure a patent for merely casting flanges on each side of the sleigh shoe or holding the runner firmly in its place. It is a very good idea, we believe, but does not contain novelty sufficient to justify an application for a patent.

F. C., of Ohio—It is a good custom to fumigate rooms infected with the scarlet fever. This is most commonly done after the sickness. We have seen the following recommended as a good disinfectant to be used during the attack. Take of common salt, which has been carefully dried over a fire, two ounces; saltpetre (nitrate of potass,) two ounces; oil of vitriol (sulphuric acid,) two ounces by measure. Mix the salts together in a chi. a basin; then pour over them the oil of vitriol, and place the basin in a corner of the sick room. The vitriol decomposes the salts and throws off a somewhat suffocating gas, which is nitro muriatic acid. This gas neutralizes the infectious matter and weakens its power. Pure chlorine, however, may answer a better purpose.

H. A., of Ind.—We do not think a patent could be procured for putting a seive in the bottom of type cases, for the purpose of carrying off the dust, etc. The idea might be considered good but not patentably novel. Globe maps constructed of india rubber, so as to allow of being inflated, are new, we believe. We have never seen maps so made. They would be very convenient for lecturers, school masters, etc.

W. F. P., of Ohio—You can procure a camera of McAllister & Co., of Philadelphia. See their advertisement in another column.

G. W. R., of Iowa—If you design to build a shot tower you will find it of great benefit to examine the one recently erected in this city.

E. D. K., of N. Y.—We are pleased to hear that the publication of your invention in the Sci. Am. has been of so much service to you. It is not unusual for patentees to write, as you have, that they have made from one to twenty thousand dollars worth of sales from having their inventions illustrated in our columns. It pays to patentees the expense of the engravings forty fold. to have their inventions illustrated in our columns, if they are good ones: but such as are of doubtful utility we are not desirous to publish. Nor is it for the interest of the owners of such to have them inserted in our columns. The readers of the Sci. Am. are too sensible, and become too well informed in mechanics, and in the inventions of the day through our columns, to be induced to purchase patents on machines of doubtful utility. To those who hold such patents we would say that they could not find a worse medium to make public their inventions, than to have them illustrated in the Sci. Am.

G. T. C., of Mass.—The Breckenridge coal is similar to the Boghead. You will find an account of making oil and paraffine from it on another column.

W. W. H. M., of N. Y.—Your complaint at the delay of the issuing of your patent for the reasons assigned by the Office are correct, and we have forwarded your letter to the Commissioner, with a request that he will answer you.

Money received at the Scientific American Office on account of Patent Office business for the week ending Saturday, Jan. 12, 1856:—

C. W. C., of N. Y., $55; W. & F., of —— $35; L. H., of O., $20; T. McB., of N, Y., $30; G. B., of Wis., $40; J. H., of N. Y., $90; S. B. R., of Vt., $25; J. W. C., of Ind., $25; J. H. W., of N. Y., $25; P. W., of N. Y., $32; S. F H., of Mich., $55; W. & B., of N. Y., $55; O. B. W., of N. Y., $25; N. & W., of Ct., $25; H. H. T., of Ill., $30; S. G., of Pa., $25; H. P. H., of N. Y., $240; D. C. T., of N. Y., $10. J. C. T., of Ct., $30; P. McM., of N. Y., $30; C. A. VanD., of Ala., $30; J. M., of Pa., $10; B. F. F., of Pa., $30; D. F. B., of Md., $30; G. & H., of N. Y., $25; W. H. B., of Pa., $5; A. A., of N. Y., $25; W. H. W., of N. J., $20; J. M. B., of —— $30.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Jan. 12:—

W. A. B., of Mich.; J. H., of N. Y.; J. W. C., of Ind.; J. A. B., of Ky.; L. H., of O.; S. B. R., of Vt.; J. W. W., of N. J.; S. G., of Pa.; W. H. B., of Pa.; N. & W., of Ct.; A. A., of N. Y.; J. C. T., of Ct.; P. M M., of N. Y.; O. B. W., of N. Y.; P. W., of N. Y.; D. C. T., of N. Y.; G. & H., of N. Y.

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Back Numbers and Volumes—The following numbers and volumes of the Scientific American, are for sale at this office, at the annexed prices:—Volume VI Vol. VII, Vol. IX, and Vol. X, complete. Price, *bound*, per Volume, $2,75. Numbers in sheets, complete, $2. Of Volumes IX. and X., we have also about 40 numbers each, not consecutive, which will be sent by mail on receipt of $1.

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THE UNDERSIGNED having had Ten years' practical experience in soliciting PATENTS in this and foreign countries, beg to give notice that they continue to offer their services to all who may desire to secure Patents at home or abroad.

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Private consultations respecting the patentability of inventions are held free of charge, with inventors, at our office, from 9 A. M., until 4 P. M. Parties residing at a distance are informed that it is generally unnecessary for them to incur the expense of attending in person, as all the steps necessary to secure a patent can be arranged by letter. A rough sketch and description of the improvement should be first forwarded, which we will examine and give an opinion as to patentability, without charge. Models and fees can be sent with safety from any part of the country by express. In this respect New York is more accessible than any other city in our country.

Circulars of information will be sent free of postage to any one wishing to learn the preliminary steps towards making an application.

In addition to the advantages which the long experience and great success of our firm in obtaining patents present to inventors, they are informed that all inventions patented through our establishment, are noticed, *at the proper time*, in the Scientific American. This paper is read by not less than 100,000 persons every week, and enjoys a very wide spread and substantial influence.

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NEW INVENTIONS WANTED—The subscriber wishes to purchase one or more new inventions in the housekeeping or stationery line. Address, with full particulars, WILLIAM BURNET, Post Office, box 4,532, N. Y. City. 17 3*

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NOTICE TO PLOW MANUFACTURERS.—JOSHUA GIBBS, of Canton, O., has invented a machine for Grinding and Polishing plows. By addressing the patentee, a cut and directions for making and using will be forwarded; also the term of three months will be granted to test its utility and advantages. Cost for erecting the machine will not exceed $15. 12 8*

OIL SAVER—Save 75 per cent of your oil by using Devlan, Wood, & Hancock's Patent Oil Saver. For particulars and right to use in machine shops, factories, &c., and on railroads, apply to S. C. HILLS, 12 Platt st., New York. 12 13

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W. P. N. FITZGERALD, Counsellor at Law—late Principal Examiner in the U. S. Patent Office—has removed from Washington, D. C. to the city of New York, 271 Broadway, (corner of Chamlers St.) As heretofore, his practice is confined to Patent Cases, which he will prosecute or defend, as counsel, before the Supreme and Circuit Courts of the United States, also before the Patent Office, or the Judges having jurisdiction of appeals therefrom. 11tf

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Rights to use the N. G. Norcross's patented machine can be purchased on application to N. G. NORCROSS, 203 Broadway, New York.

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Science and Art.

Effects of Heat upon Meat.

A well-cooked piece of meat should be full of its own juice, or natural gravy. In roasting, therefore, it should be exposed to a quick fire, that the external surface may be made to contract at once, and the albumen to coagulate before the juice has had time to escape from within. And so in boiling. When a piece of beef or mutton is plunged into boiling water, the outer part contracts, the albumen which is near the surface coagulates, and the internal juice is prevented either from escaping into the water by which it is surrounded, or from being diluted or weakened by the admission of water among it. When cut up the meat yields much gravy, and it is rich in flavor. Hence a beefsteak or mutton chop is done quickly, over a quick fire, that the natural juices may be retained. On the other hand, if the meat be exposed to a slow fire its pores remain open, the juice continues to flow from within, as it has dried from the surface, and the flesh pines, and becomes dry, hard, and unsavory. Or if it be put in cold or tepid water, which is gradually brought to a boil, much of the albumen is extracted before it coagulates, the natural juices for the most part flow out, and the meat is served in a nearly tasteless state. Hence, to prepare good boiled meat, it should be put into water already brought to a boil. But to make beef-tea, mutton-broth, and other meat soups, the flesh should be put into cold water, and this afterwards very slowly warmed, and finally boiled. The advantage derived from "simmering"—a term not unfrequent in cookery books—depends very much upon the effects of slow boiling, as above described.

These are the views of Liebig and Professor Johnstone on cooking meat, and should be treasured up by every person who boils in a pot or fries in a pan.

Incense, or Odorous Fumigating Powder.

Take ground cloves and allspice, of each two ounces; gum benzoin, one ounce; ground cascarilla bark, half an ounce; cinnamon (in powder) half an ounce; orris root and sandalwood, of each one quarter of an ounce; and half a nutmeg, grated. Mix these ingredients well together, taking care that they are all in fine powder. This mixture forms a very fragrant incense; it is used by sprinkling a small quantity upon a very hot iron—a shovel, for instance; or if thrown upon a few hot cinders it diffuses in a room an exceedingly pleasant perfume, and, if not overdone, is very agreeable in a sick chamber. Under the name of incense, mixtures of this kind have been used from the earliest period; indeed, it is recorded in the 30th chapter of Exodus that the Lord commanded Moses "to confection" such a perfume, the ingredients of which are given in the 34th, 35th, and 36th verses. "Take unto thee sweet spices, stacte, and onycha, and galbanum; these sweet spices with pure frankincense; of each there shall be a like weight. · · · And thou shalt beat some of it very small. · · · Tempered together pure and and holy." In the receipt we have given, any one or two of the materials may be omitted, if difficult to procure, without materially decreasing in odor.—[Piesse's Art of Perfumery.

How Life is Sustained During Intense Cold.

When Dr. Kane and his party were conducting their explorations in the Arctic regions, with the thermometer at 70 degs. below zero for several months, the ordinary daily allowance to each man was six or eight ducks, or an equivalent in several pounds of fat seal.

Fat contains a great amount of carbon and hydrogen, therefore the fat consumed by Dr. Kane's party kept up the heat of the human furnace by intense combustion. The food that is requisite to sustain life in the Arctic regions would cause premature death in the tropical regions.

In latitude 80 degs., Dr. Kane found the Esquimaux Indian, the reindeer, and many varities of the floral world, principally of the Alpine species. The latter were numerous and diminutive. How far north the human race and animals exist, is not known, but Dr. Kane's observations clearly establish the fact, that the extreme cold of latitude 80 degs. is not the limit to their northern migration.

The Esquimaux are a migratory people, and with sledges drawn by dogs, undertake journeys of hundreds of miles in extent, depending for their subsistance upon such nourishment as chance throws in their way, such as fat seals and sea fowls, which are very abundant.

Hunters' Lantern.

The accompanying figure represents a lamp for hunters, for which application has been made for a patent by the inventor, J. P. Schafer, of Anderson, Texas.

The bright light of a torch or lantern fascinates deer, and hunters employ this means to approach quite near to them, sometimes as close as twenty yards, when they can easily be shot. The light also enables the hunter to see the eyes of deer at a distance of from 150 to 200 yards, and thus they become prominent marks for the deadly rifle. The object of this lamp or lantern is the employment of a convenient means to hunt deer at night by taking advantage of the attraction which the light exercises on the animal, and to afford light to the hunter.

A represents a case, with sides and back made of sheet metal, and its front of glass. The back plate is curved to fit the front of the head, and inside there may be placed a reflector plate, to concentrate the rays, and send them to a greater distance. B is a lamp inside of the case. It has three wicks, *a a a*—more or less may be used. *b c* are vent tubes to admit air for combustion; they are of such a hight as to prevent any spilled oil entering them. The smoke is allowed to escape by perforations at the top. At the lower sides of the case there is a curved strip of metal, *d*, at each side. To each of these a strap is attached, to tie behind, as shown. *f* is another strap attached to the upper part of the lantern case, and thence passing down the back, and is secured to the hunter's waist-belt. In this manner this lantern is snugly secured to the head of the hunter, and he can carry it quite conveniently. It is a very superior method for night hunting to the common plan of carrying a torch or light of any kind in the hand, as this allows the hunter the free use of both hands; and it serves him not only for a beacon, but also a lure for his prey.

More information respecting this hunting lamp may be obtained by letter addressed to Mr. Schafer.

Gold Bearing Rocks.

Evan Hopkins, the English geologist, states, that the auriferous veins likely to prove very productive are the auriferous pyrites, but the great productions of gold have hitherto been obtained from superficial deposits. The reason why it is generally conceived that quartz is the matrix which produces gold, is that the precious metal, after precipitation, adheres more strongly to quartz than to the other auriferous rocks. Although the quartzose bands produce occasionally large masses of gold, yet the quantity bears but a small proportion to that which is obtained from the ferruginous and talcose slates.

Sir Roderick Murchison says, "When the Spaniards first visited America, gold, collected by the poor people with their sticks out of the gravel of the earth, was found in abundance, covering the palaces of princes, but it is now gone. What had been the case with Mexico and Peru, would yet be the case with Australia, but it will, no doubt, produce gold for many years to come."

Cure for Hydrophobia.

Any remedy for this terrible disease should be hailed as a blessing. The Elizabethtown (N. J.) *Post* comes to us marked by the editor to direct our attention to the following remarks and receipt for curing this scourge:

"Some three years ago we published in the *Post* a remedy for that terrible disease, but it seems credence was not given to our statement, for it was never copied, to our knowledge. Yet there are still living many evidences of its efficacy. It was first prescribed on a consultation of three physicians for an individual who had been bitten and badly torn by a dog known to be mad, and, we believe, after the individual had one or two of the spasms of hydrophobia. The patient was cured, and lived many years. Of the three physicians but one still survives, a man of nearly 85 years, and he has had occasion to prescribe the same remedy, during a long term of fifty years' practice, for other persons bitten by rabid animals, and *always* with success. The last time was within our memory, between the years 1820 and 1824, we believe, when several children in the south part of Chesterfield, or north part of Willsborough, in this county, were bitten by a cat. Animals were bitten by the same cat, and went mad and died. We know not if any of the individuals bitten are still living in that neighborhood, but there are, undoubtedly, others who will remember the circumstances. A remedy so well-known to have been proved a cure, should be known to the medical profession and to the world; and we once more publish it, hoping that many others may imbibe a portion of the faith we ourselves have in it; and again prove its efficacy should an occasion unfortunately offer:

"Keep the sore running or discharging matter as long as possible with powdered verdigris dusted into the wound, and give one grain of mineral turpeth at a dose three times in the day in a little dry sugar rubbed very fine, and washed down with warm tea or water, until the mouth is slightly affected with the mercury, then stop till all the appearances of the affection in the mouth have disappeared; then repeat the course in the same way. Repeat the courses three or four times in the course of six weeks, when I consider the patient out of danger."

Ebony Wood.

Ebony wood is extremely hard, and susceptible of a very fine polish. Its color is black, red, or green. The black is most esteemed, and is imported principally from Madagascar and the Isle of France. Red ebony, so called, though its color is brown, striped with black, is less compact, and is also brought from Madagascar. The green is softer than either of the other kinds, yields a fine green tincture, which is employed in dyeing, and brought from the West Indies. The best kind is jet black, and free from knots or reddish veins. Ebony is imitated by subjecting the pear tree to a hot decoction of galls, and, when this is dry, applying black with a stiff brush. It is used for various mechanical and other purposes.

Cure for Cutaneous Affections.

A French physician recommends the use of pomade of proto-sulphate of iron as a remedy for all those diseases or affections of the skin which, in their essence are secreting, and which generally occur in lymphatic temperaments and constitutions. It is also stated that in the disease known as pyrosis, when it is unaccompanied by extensive ulceration, or organic malignant disease of the stomach, or by disease of the lives—the most marked benefit will follow the use of gallic acid.

Useful Receipt.

Wounds in cattle are quickly cured by washing several times a day with a mixture of the yolk of eggs and spirits of turpentine.—[Phila. Ledger.

To Clean Kid Gloves.

Take the gloves, place them on a clean board, and stretch out their fingers. Then take a mixture of alcohol, ten parts, and turpentine, two parts, in a cup, and rub them with this—using a soft sponge for the purpose.—This will remove the grease and dirt, and not injure the color. All the dirt and liquid must be pressed out of the gloves with the sponge by squeezing it in the hand, then rubbing it on the gloves to absorb the liquid, until no more can be taken up in this way. Both the outside and inside of the gloves should be treated in this manner. They are then set to dry in a moderately warm place, and during the time of drying the fingers are stretched from time to time, to prevent them from shrinking. Some dry them on artificial hands to keep the fingers stretched.

In cleaning gloves by this process, care must be taken not to approach too near a light or a fire. The liquid above, for cleaning the gloves, is the same as that commonly known by the name of "liquid spirit gas," used in lamps.

To Wash Silk.

To wash silk with great success spread it on a table, and then rub it with a sponge dipped in a mixture of equal parts of soft soap, brandy, and cane molasses. Rinse it thoroughly in three successive portions of water, and iron it before quite dry.

[The above we have noticed in two or three of our exchanges. It is not a good recipe.—Just think of using molasses for a soap. Weak liquid ammonia and whiskey make a much better wash for silk. Place the piece of silk to be cleaned on a smooth clean board, then take a sponge, and dip it into liquid ammonia diluted with one-half its measure of water, and rub the surface of the silk well on both sides. After this rub it in the same manner with whiskey, or dilute alcohol, then hang it over a cord until it is nearly dry; then iron it on the wrong side. This is the most simple way to clean silk dresses.

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